TERM FIRST

Class 7th Tutorial

THE LEGENDS

SCHOOL OF EDUCATION

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Term Ist Science Tutorial for class 7th

Term 1st includes:

1. Flow of heat
2. Transportation of materials in plants and animals
3. Structure of matter

TOPIC: Flow of heat

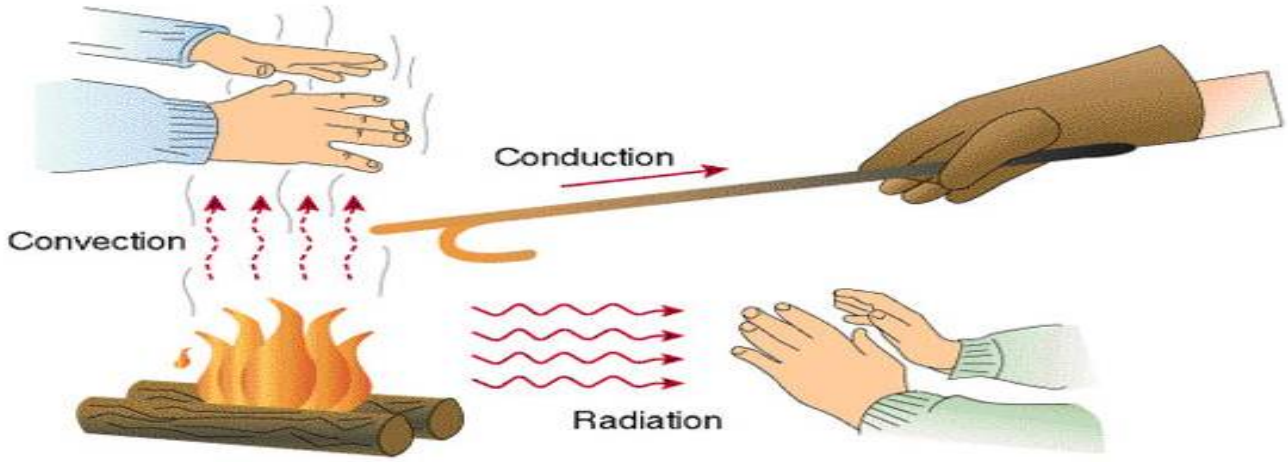
Lesson no. 6

HEAT: Energy transferred from one body to another due to temperature difference.

Mode of heat transfer

How does heat move? Well, heat could move/transfer in three ways:

1. Conduction 2. Convection 3. Radiation



Conduction

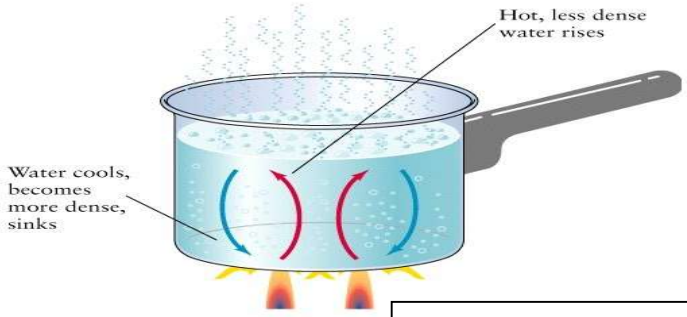
Conduction refers to transfer of heat (**vibration**) from one molecule to an adjacent molecule or from a warmer object to a cooler object when the two objects are in direct contact with each other without any actual movement of material particles of the solid substance. When you put your cold hands around a hot cup of coffee, you're using the principle of conduction to warm your hands.

Heat Conductor: Materials which easily conduct heat for example copper, silver, nickel, aluminium, iron etc.

Heat Insulator: Materials which does not conduct heat for example glass, wood, plastic, stone, paper etc.

Convection

Convection refers to heat transfer due to movement of material that has been heated. As shown below, heat from the burning fire warms up the air; warm air rises and warms our hands. So heat is transferred from fire to our hands due to movement of air being heated.



Convection currents in water

Radiation (radiant energy): The process of transfer of heat in which a material medium is not necessary and heat is directly transferred from the hot body to the cold body.

NOTE: Students are directed to read the chapter thoroughly from the textbook for detailed explanation.

SHORT ANSWER TYPE QUESTIONS

Q1. What conditions are necessary for transfer of heat from one body to another by conduction?

Ans. The conditions necessary for transfer of heat from one body to another by conduction are:

1. the two objects should be in contact and
2. their temperature should not be the same.

Q2. Differentiate between good and bad conductors of heat.

Ans. Conductors: materials which allow heat to be conducted through them easily are called good conductors of heat. Metals such as iron, copper, silver and aluminum are good conductors of heat.

Insulators (bad conductors): materials which do not allow heat to be conducted through them easily are called bad conductors of heat or insulators of heat. Wood plastic and glass are insulators of heat.

Q3. Why do woollen clothes keep us warmer in winters than cotton clothes?
Ans. We wear woolen clothes in winter because air is a poor conductor of heat and woollen clothes do not allow the transfer of body heat to the environment and keep us warm. The wool is structured so there is air trapped inside. Air is a very good insulator.
Q4. Why are ventilators in houses provided at the top of walls?
Ans. Ventilators are provided high up on the walls; this is because the air we breathe out is warmer and lighter and rises up. This warm air escapes from the ventilators. It is replaced by fresh air coming in from doors and windows.
Q5. How does heat from the sun reach us? At what speed does this transfer of heat take place?
Ans. The heat from the sun reaches us by radiation. It travels with the speed as that of light i.e. about eight minutes.
Q6. What is the function of the polished curved surface at the back of the heating rod in a room heater?
Ans. The polished curved surface at the back of the heating rod in a room heater reflects the radiant heat. Thus, the radiant heat spreads across the room, this makes the room heater more effective.

LONG ANSWER TYPE QUESTIONS

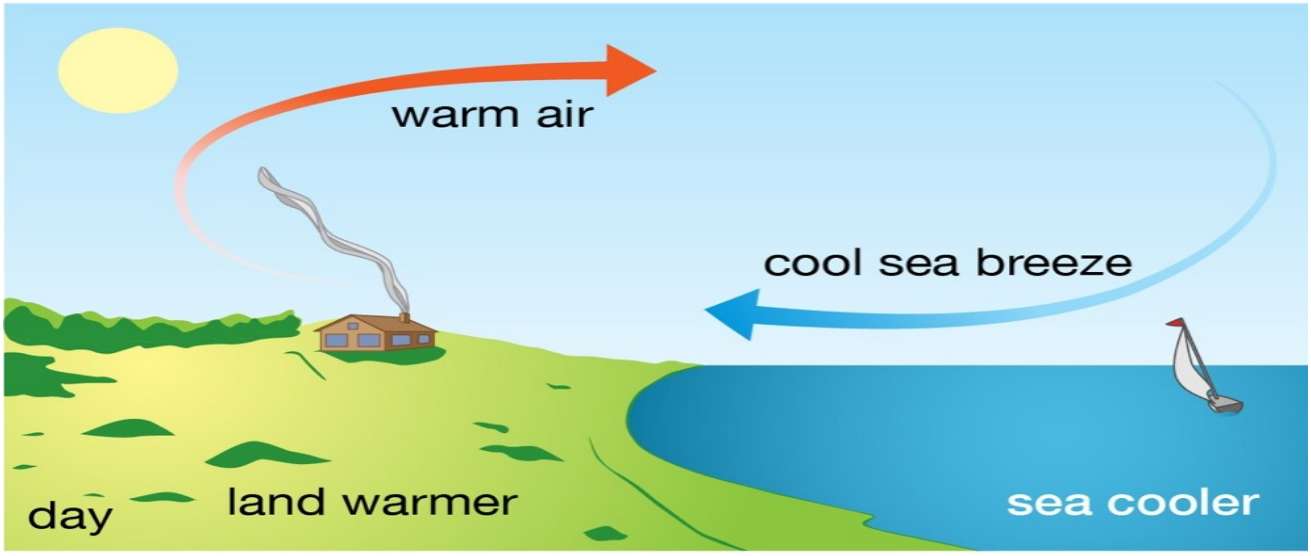
Q1. Explain how heat is conducted from the heated end of a rod to its cold end.
Ans. When one end of the rod is heated, the molecules at that end starts vibrating faster. They hit the nearby molecules and make them vibrate, which in turn hit the neighboring molecules. In this way the vibrations end, hence heat gets transferred from the hot end to the cold end.
Q2. With an example of each, explain the use of good and bad conductors of heat.
Ans.We use good conductors of heat wherever we want heat to be transferred fast. For example, cooking utensils are made of metals such as brass, aluminum which are good conductors of heat.
We use bad conductors of heat where ever we do not want heat to be transferred quickly, or the places where we do not want heat to be lost or gained from the surroundings. For example, handles of cooking utensils are made of bad conductors of heat such as wood or plastic.
Q3. Describe the process of convection of heat.

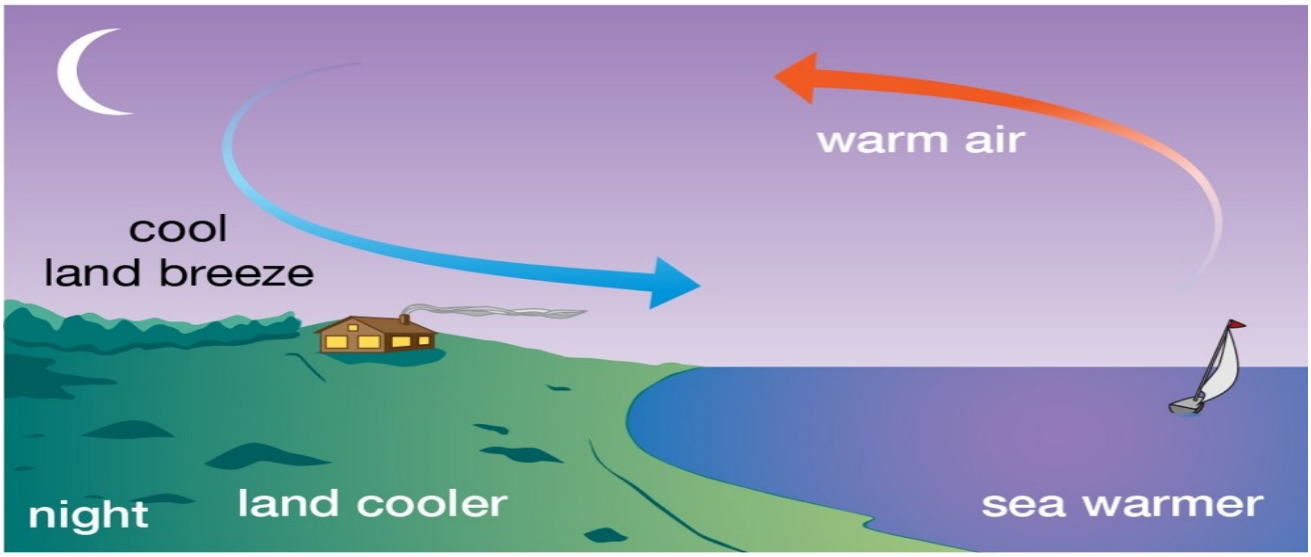
Ans. Convection is the process of transfer of heat in which the heated molecules of a liquid or gas themselves move to carry heat from the hot to the cold region. This constant movement of a liquid or gas is called convection current.

Q4. Explain with the help of diagrams how sea and land breezes are set up.

Ans. Sea breeze: during daytime, land absorbs heat faster and becomes hot. So the air above the land surface becomes lighter and moves up. In turn, cooler air coming from sea takes its place. Therefore, it is called sea breeze.

Land breeze: at night, the land cools down faster than the sea water. So the air above the sea is warmer and moves up. In turn, cooler air from land takes its place. Therefore, it is called land breeze.





Q5.Black objects absorb more heat than white or polished ones. Give two daily uses of this principle.

Ans. Black objects absorb more heat than white or polished ones. The two daily uses of this principle are:

1. Dark colored clothes are suitable in winter as they absorb more heat.
2. The outer base of a cooking utensil is painted black so that it absorbs more heat due to which cooking can be done in less time.

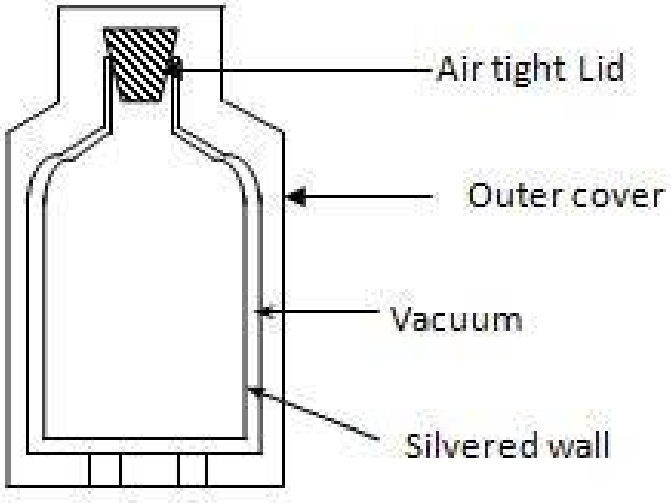
Q6. Black objects radiate more heat than white objects. Give two everyday uses of this principle.

Ans. Black objects radiate more heat than white objects. The two everyday uses of this principle are:

1. The back of the refrigerators is coloured dull black to radiate heat more effectively in order to cool down the refrigerator pipes.
2. Electric hot plates are also coloured dull black to radiate maximum heat.

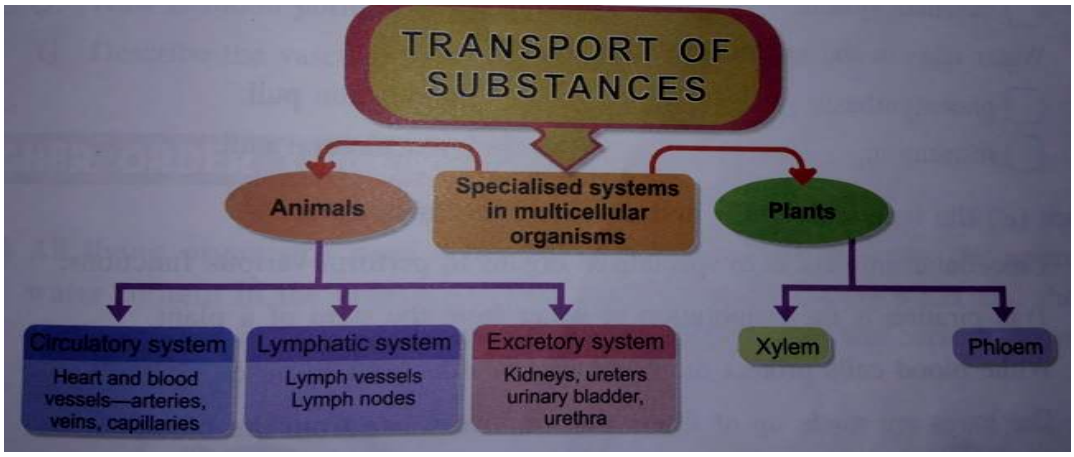
Q7. Draw a neat labelled diagram of a thermos flask. How does it prevent transfer of heat by conduction, convection or radiation?

Ans.The vacuum between the two glass walls of the thermos flask considerably reduces the flow of heat by conduction and convection. This is because both conduction and convection need molecules of a medium for transfer of heat. The silvered surfaces reflect the heat back, thus reducing radiation.



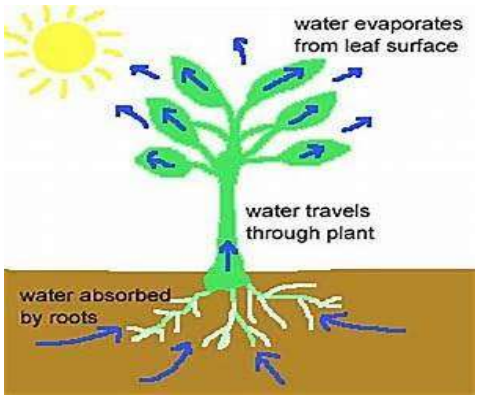
LESSON NO. 12

TOPIC: Transportation of materials in plants and animals

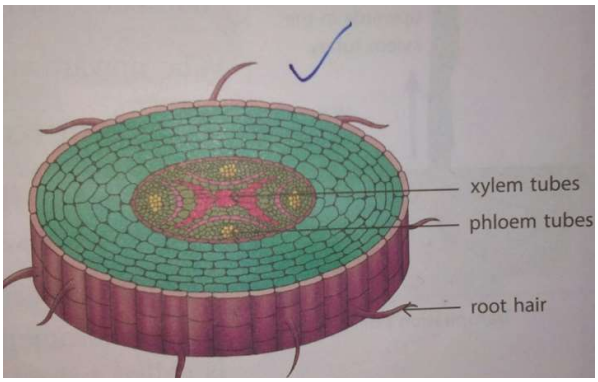


Transport of materials in plants:

The transport system in plants is called the vascular system. It is made up of two types of narrow tubes called the xylem and the phloem. Each of these tubes are organized into bundles called vascular bundles and form a continuous network in the entire plant. In a leaf, these bundles appear as leaf veins.



Transportation of minerals and water: Minerals such as potassium (K), phosphorus (P), magnesium (Mg), calcium (Ca), and iron (Fe), are required by the plant to perform various functions. These minerals occur as salts in the soil. The mineral salts dissolve in water and are absorbed by the root hairs along with water. The upward movement of sap that contains water and minerals is called ascent of sap.

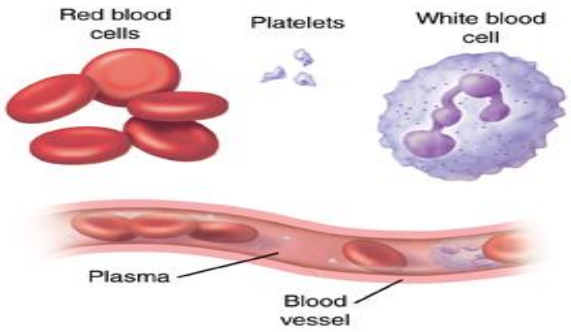


Water absorbed by the root hairs moves towards the center of the root and collects in the xylem tubes. The xylem transports water to the leaves and other parts of the plant. The leaves use some of the water to make food and the remaining water is released from the leaves through the stomata as water vapour. This process is known as transpiration.

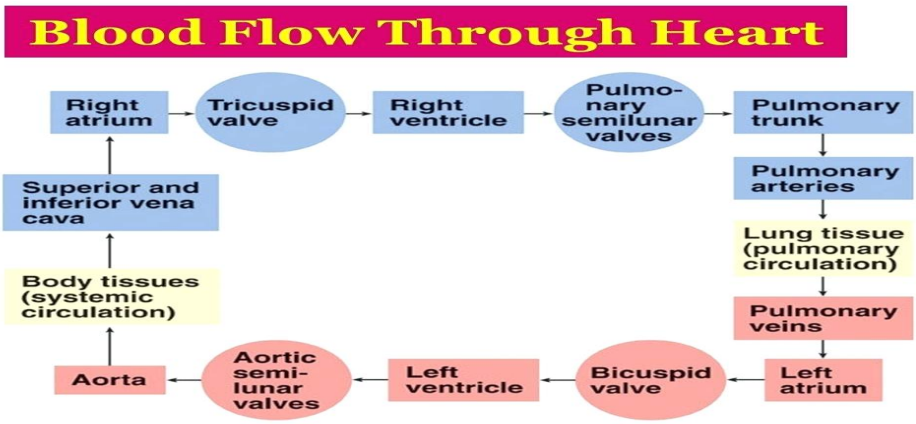
Transportation of food in plants: Plants make their own food through the process of photosynthesis. The phloem cells transport food made by the leaves to the stem, branches, flowers, fruits and roots. This process is called translocation.

Transportation of materials in animals:

- The circulatory system is a transport system of the human body which consists of a network that supplies food, water, oxygen and other substances throughout the body.
- The main parts of the circulatory system are:
  - Blood
  - Blood Vessels
  - Heart
    - BLOOD is a specialized bodily fluid that flows in blood vessels. There are three types of blood cells i.e Red Blood Cells, White Blood Cells and platelets.



    - Blood vessels our body contains tube-like structures called the blood vessels that help in the transportation of blood throughout our body. Our body contains three types of blood vessels, arteries, veins and capillaries.
    - Heart is a muscular organ involved in pumping of blood.



Pulse

We know that the heart pumps the blood in the arteries. This continuous pumping of blood in the arteries results in their rhythmic throbbing which is called Pulse.

Pulse rate

Pulse rate is defined as the number of pulse beats per minute. The normal pulse rate of human beings is 70 to 80 beats per minute.

Excretion in Animals

- The process of removal of metabolic wastes from the body is known as excretion. The waste products are toxic and hence they must be removed from the bodies of the living organisms.
- Lower animals, such as amoeba, hydra has no special excretory organs and waste products are excreted by the process of diffusion i.e removal of wastes through the body.
- Larger animals have special organs like kidneys for excretion.

NOTE: Students are directed to read the chapter thoroughly from the textbook for detailed explanation.

SHORT ANSWER TYPE QUESTIONS

Q1. In what ways are xylem and phloem important for transportation of materials in plants?
Ans. Plants have a transport system consisting of xylem which carries water and minerals from the roots to the stem and leaves whereas phloem carries food from the leaves to all parts of the plant.
Q2. What is transpiration?
Ans.The process of losing water in the form of water vapors from the leaves of a plant is known as transpiration.
Q3. What is translocation?
Ans.The process of transport of food from the leaves to other parts of the plant is known as translocation.
Q4. Name the system responsible for transportation of materials in humans. Which organs constitute this system?
Ans. Circulatory system is responsible for transportation of materials in humans. It consists of blood, blood vessels and the heart.

Q5. What prevents the blood from going in the wrong direction in the heart?
Ans. Valves are present inside heart in between chambers which prevents the blood from going in the wrong direction in the heart.
Q6. What is the relationship between the rate of heartbeat and pulse rate?
Ans.The stretching and relaxing of arteries with each heartbeat is felt as a throbbing called pulse. So when heart beat increases pulse also increases. In this way heart beat is related to pulse which is normally 60 to 80 times a minute.
Q7. Why does the rate of heart beat increase after running?
Ans.After running, the body needs more oxygen for extra energy. To support the requirement, the rate of heart beat increases after running
Q8. What is excretion? Why is it important?
Ans.The process of removal of metabolic wastes from the body is known as excretion. This is important because accumulation of these wastes beyond a level inside the body is harmful to the body.
Q9. How is urine examination useful to the doctor?
Ans. Urine examination is useful to the doctor because it tells a lot whether various organs in the body are functioning normally for example, the presence of sugar in the urine indicates that the person may be suffering from diabetes.
Q10. What is dialysis?
Ans.The process of filtering blood for the removal of wastes by the machine is called dialysis.

LONG ANSWER TYPE QUESTIONS
Q1. Discuss the process of absorption of water by root hairs.
Ans. Root hairs are out growths from the layer of outer cells of the root. The root hairs increase the surface area of the root for absorption of water. This absorption of water takes place by a process called osmosis. The root hairs are in direct contact with water surrounded by the soil particles. Normally, water molecules are more crowded outside the root hairs than inside. So they move into the root hairs by osmosis. The water then moves through the root tissue to the xylem in the root.
Q2. What role does transpiration play in the transportation of water in a plant?
Ans. The process of losing excess water in the form of water vapour is called transpiration. It creates a suction pull, which pulls water up to the plants from the roots. As water is given out by transpiration, more water is absorbed. This pull is strong enough to force water up high trees.
Q3. Discuss the importance of transportation of various materials in the human body.
Ans.In humans, food, oxygen, waste products and so on have to be transported from one part to another. Food and oxygen are transported to all the cells in the body for respiration and growth. Waste products are transported from the cells to the organs that excrete them.
Q4. What does the circulatory system consist of? Give the main function of each.
Ans.The circulatory system consists of the blood, the blood vessels and the heart.
A. Functions of the blood:
a. It transports digested food from the small intestine to all parts of the body.
b. It transports oxygen from lungs to the body cells and carbon dioxide from body cells to the lungs.
c. It transports liquid wastes from the body to the cells of kidneys for removal.
B. Function of blood vessels:
a. They circulate blood through the body.
C. Function of heart:
a. It pumps blood to all parts of the body.

Q5. Differentiate between arteries and veins. What is the importance of capillaries in the circulatory system?

Ans.1. Features of arteries:

a. They carry blood away from the heart.
b. They have thick elastic walls.
c. Pulse can be felt in arteries.
d. They generally carry oxygen mixed pure blood except the pulmonary artery.

2.Features of veins:

a. They carry blood towards the heart.
b. They have thin walls.
c. They generally carry carbon dioxide mixed impure blood except the pulmonary vein.

3. Capillaries:

Capillaries have thin walls through which oxygen, digested food, carbon dioxide and other waste products are exchanged between the blood and the surrounding cells. Arteries branch into capillaries and again the capillaries join up to form the veins.

Q6. If you observe the drop of blood under a microscope, which cells would you see? What are the functions of these cells?

Ans.If we observe a drop of blood under a microscope, we would see RBC's, WBC'S and platelets.

1. Function of RBC's:

They contain a red coloured protein called hemoglobin, which absorbs oxygen and transports it to the cells all over the body.

2. Function of WBC's:

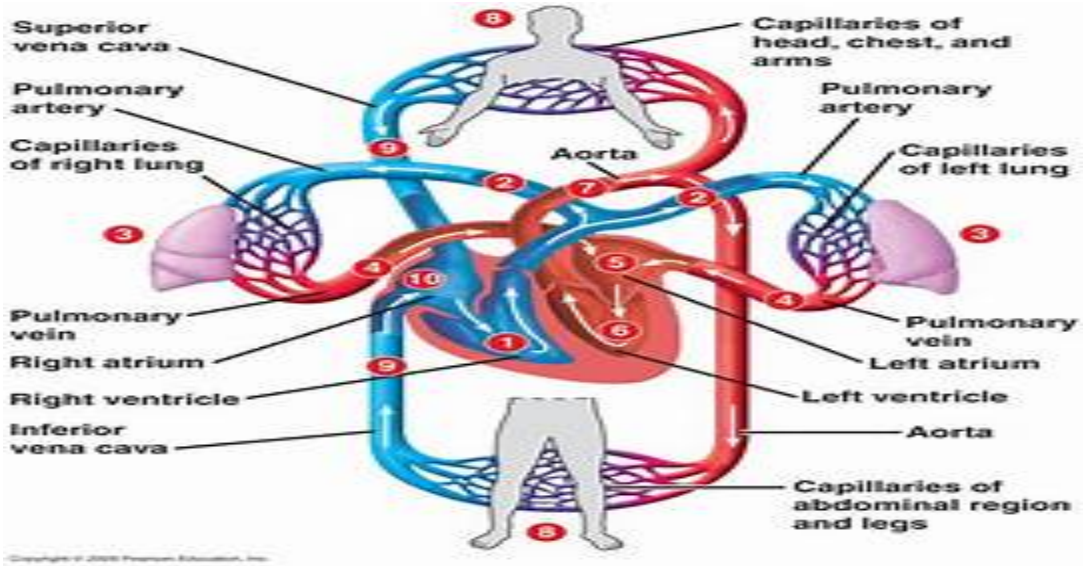
They fight against diseases by destroying harmful bacteria and other foreign materials.

3. Function of platelets:

They help the blood to clot whenever there is a wound on the body.

Q7. With the help of a labelled diagram, trace and explain the path of blood circulation in the human body.

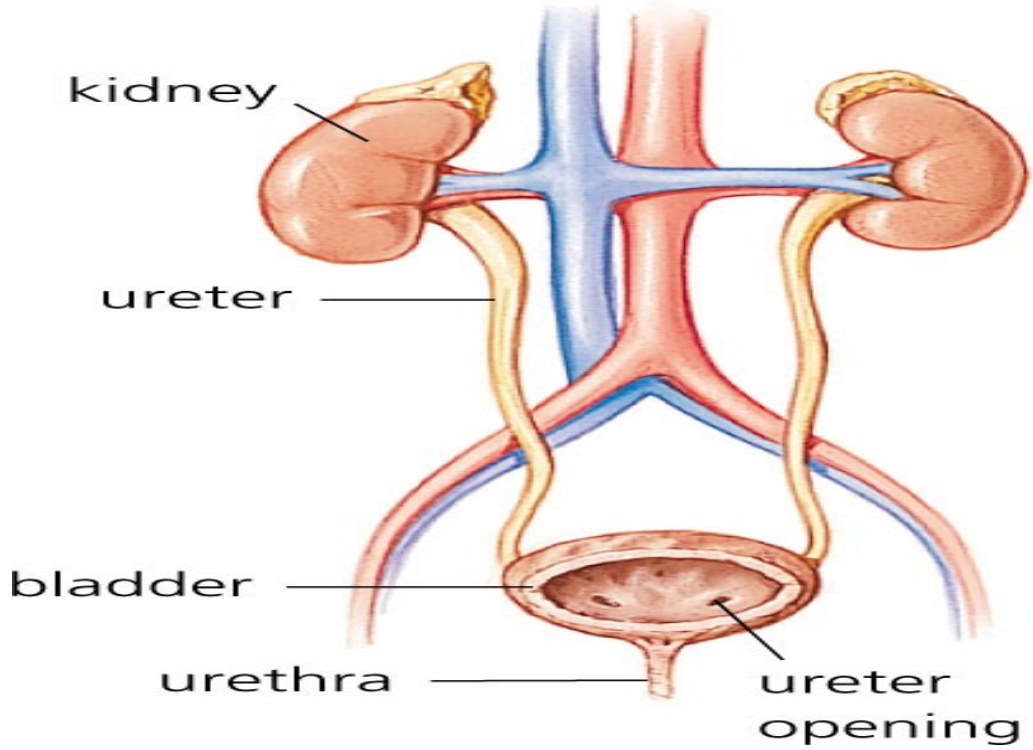
Ans.The blood enters the right side of the heart and is pumped to the lungs where it gives carbon dioxide and takes up oxygen. This oxygen rich blood travels back to the left side of the heart. It is again sent to all other parts of the body and the process is repeated again and again.



Q8. Draw a labelled diagram of the urinary system showing and explaining its various organs.

Ans.The various organs of the urinary system are:

1. Kidneys: two kidneys are present in each human which have functional units called nephrons. Nephrons filter the blood, reabsorb all the useful substances from that filtrate and remove the rest as urine from kidneys.
2. Ureters: these are two tubes that drain urine from the kidneys to the bladder.
3. Urinary bladder: it is a hollow, muscular and elastic organ. It stores urine.
4. Urethra: it is the muscular tube that connects the bladder with the outside of the body. It simply functions to remove urine from the body.



Q9. What processes take place during the period when the blood enters the kidneys till the urine leaves the body?

a. The blood gets filtered through the nephrons. They filter out excess water, salts and urea from the blood as it passes through them. The clean blood leaves the kidneys and continues its circulation in the body.the wastes removed by the kidneys from a liquid called urine. It passes from the kidneys through two tubes called ureters into an elastic sac called the urinary bladder. The bladder stores the urine until it is excreted from the body through the urethra.

LESSON NO. 3
TOPIC: Structure of Matter

MATTER: Anything that occupies space and has mass is called matter. The amount of matter contained in an object is called its mass. The amount of space occupied by an object is called its volume.

WHAT IS MATTER MADE UP OF?

Matter is made up of very tiny particles. The tiny particles are called molecules. These particles are never at rest and are moving continuously. These molecules are said to possess kinetic energy.

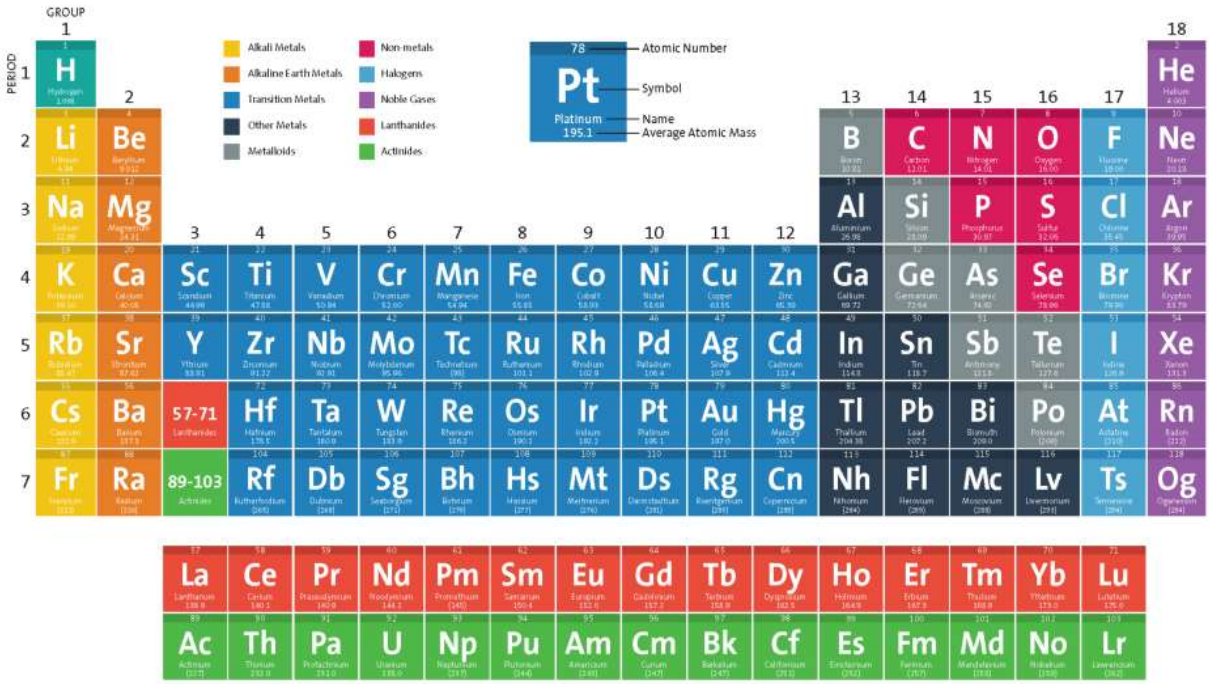
ATOM: The smallest particle of which everything around us is made up of.

MOLECULE: All elements are made of atoms. In some substance, atoms can exist singly(or independently) but in most of the substances, atoms form groups called molecules. The smallest particle of a compound that can exist independently is called a molecule.

When similar kinds of atoms combine, they form molecule of an element. For example two similar hydrogen atoms combine to form a molecule of hydrogen elements.

ELEMENT:A pure substance made up of similar kinds of atoms and cannot be broken down into simpler substances e.g. iron, gold etc.

ELEMENTS OF PERIODIC TABLE



PROPERTY	COMPOUNDS	MIXTURE
1. combination of constituents	constituents are combined together chemically	constituents are combined together not chemically but physically only
2. ratio of constituents	same constituents are present in a fixed ratio	constituents can be present in any ratio
3. separation of constituents	constituent can be separated only by chemical methods	constituents can be separated by physical methods
4. Properties	have properties different from those of their constituents	properties are those of their constituents
5. energy changes	often energy is absorbed or released during the formation of compounds.	often no energy is absorbed or released when a mixture is formed

SYMBOLS: it is the short form of an element. There are 118 elements in periodic table.A symbol represents one atom of an element and hence the element itself.

Element name	Atomic number	Atomic mass	Element name	Atomic number	Atomic mass
Hydrogen	1	1	Sodium	11	23
Helium	2	4	Magnesium	12	24
Lithium	3	7	Aluminium	13	27
Beryllium	4	9	Silicon	14	28
Boron	5	11	Phosphorus	15	31
Carbon	6	12	Sulphur	16	32
Nitrogen	7	14	Chlorine	17	35.5
Oxygen	8	16	Argon	18	40
Fluorine	9	19	Potassium	19	39
Neon	10	20	Calcium	20	40

WRITING CHEMICAL FORMULAE

A chemical formula is defined as a collection of chemical symbol that is used to show the elements present in any compound and its proportion.

CHEMICAL FORMULA

As already stated, a chemical formula is a symbolic expression signifying the number of atoms present in a molecular substance. We determine the type of atom by referring to its symbol, so for Hydrogen, we will use H. The number of atoms is determined by the subscript attached to the symbol. So a chemical formula of water, i.e H_2O has two atoms of hydrogen and a single atom of oxygen.

WRITING A FORMULA

We can write the formula of a compound if we know

1. the symbols of the element/groups it is made up of, and
2. the valencies of the elements/ groups it is made up of.

The steps involved are as follows:

1. write the symbols of the elements/groups side by side. Write their valencies on top as superscripts of their symbols.

2. divide by any common factor in their valencies.

3. interchange the numbers obtained and write them at the base (as subscript) to get the formula.

CHEMICAL EQUATIONS

A chemical equation shows the result of a chemical reaction in which the reactants and the products are represented by symbols or formula. An equation must be balanced;i.e the no. of atoms of each element should be the same on both sides of the equation. For example

$2Na + 2H_2O \longrightarrow 2NaOH + H_2$

(Reactants) (Products)

NOTE: Students are directed to read the chapter thoroughly from the textbook for detailed explanation.

SHORT ANSWER TYPE QUESTIONS:

Q1. When will two elements on being mixed together form a compound?

Ans.When two elements mix together they combine chemically in a fixed ratio to form a compound.

Q2. Why are the properties of different compounds so different from each other?

Ans.The properties of different compounds are different from each other due to the following reasons:

a. Their constituent elements are different.
b. Sometimes their constituent elements are same but their ratios are different e.g. H_2O (water) and H_2O_2 (hydrogen peroxide).

Q3. Why are most elements not found in the free state in nature?

Ans. Many elements have a great tendency to combine with each other to form compound. These elements are therefore not found in the free state in nature.

Q4. How can you form ironsulphide from a mixture of iron and sulphur?

Ans.An iron sulphide(FeS) is formed by heating a mixture of iron and Sulphur in a fixed ratio of 14: 8 or 7: 4.

Q5. What does a formula represent?

Ans.A formula represents:
1. The type of elements presents in a compound.
2. The number of atoms of elements present in the compound.
3. The molecule of the compound.

Q6. Define valency in terms of hydrogen.

Ans.Valency of an element is a measure of its combining power with other atoms when it forms chemical compounds or molecules.

LONG ANSWER TYPE QUESTIONS

Q1. Explain the difference between an element and the compound. Give examples.

Ans.

Element	Compound
1. A substance that cannot be decomposed into simpler substance by chemical change and is made up of only one kind of atoms is called element e.g. hydrogen (H) 2. An atom is a smallest particle of an element. 3. There are 118 elements known to us.	1. A substance formed by the chemical combination of two or more than two elements in a fixed ratio is called a compound e.g. water (H_2O) 2. A molecule is a smallest particle of a compound. 3. There are in numerable compounds around us.

Q2. Explain the difference between the atom and the molecule of an element. Can a molecule of an element be the same as its atom? Give an example.

Ans.An atom is the smallest particle of an element that can take part in a chemical reaction. It may or may not exist independently.
A molecule is the smallest particle of a compound that can normally exist independently.
Yes, a molecule of an element can be the same as its atoms. That means its atoms exist independently. This element is known as monoatomic elements e.g. Helium (He)

Q3. Write the formulae of the following compounds, showing the steps involved.

Sodium oxide	Magnesium Nitrate	Magnesium Sulphate	Aluminum Chloride
NaO Na^1O^2 Na_2O_1 Na_2O	Mg (NO3) $Mg^2(NO_3)^1$ $Mg_1(NO3)_2$ $Mg(NO_3)_2$	$Mg(SO_4)$ $Mg^2(SO_4)^2$ $Mg_2(SO_4)_2$	AlCl Al^3Cl^1 Al_1Cl_3 $AlCl_3$

Q4. What is a chemical equation? Why is it necessary to balance an equation?

Ans.A chemical equation shows the result of chemical reaction in which the reactants and the products are represented by symbols or formula e.g.

$Fe + S \xrightarrow{\Delta} FeS$

It is necessary to balance an equation because the number of atoms of each element should be the same on both the sides of equation.

Q5. Balance the following equations.

a) $Mg + H_2SO_4 \longrightarrow MgSO_4 + H_2$

Sol: It is a balanced type of equation.

b) $CaCO_3 + HCl \longrightarrow CaCl_2 + H_2O + CO_2$ (Unbalanced equation)

Sol: $CaCO_3 + 2HCl \longrightarrow CaCl_2 + H_2O + CO_2$ (Balanced equation)

c) $CaO + H_2O \rightarrow Ca(OH)_2$

Sol: It is a balanced type of equation.

d) $Ag + HNO_3 \longrightarrow AgNO_3 + H_2O + NO_2$(Unbalanced equation)

Sol: $Ag + 2HNO_3 \xrightarrow{} AgNO_3 + H_2O + NO_2$ (Balanced equation)

Q6. Using the example of calcium chloride explain how the formulae of compounds are derived (given that the valency is 2 and that of chlorine is 1).

Ans. The charge of calcium atom is 2 positive and charge on chlorine atom is 1 negative. Therefore, to balance the charge we require two atoms of chlorine to react with 1 atom of calcium.

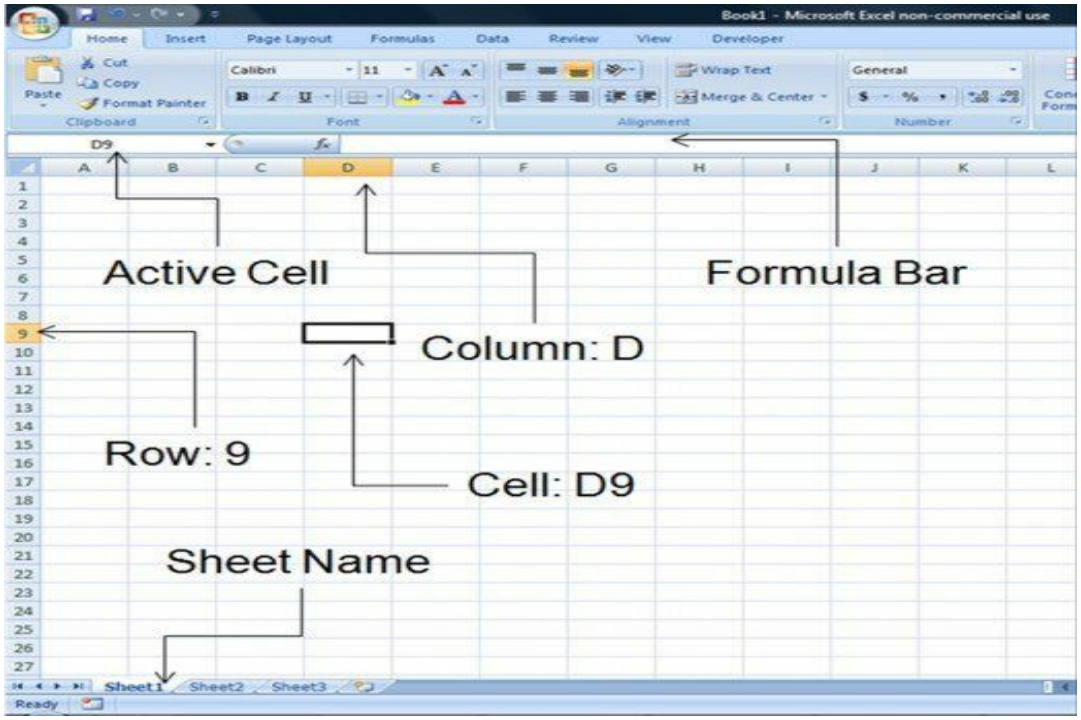
Subject:-Computer Class:-7th Term-I

Lesson no:-5

Topic:-Advanced features of Excel

Introduction:-

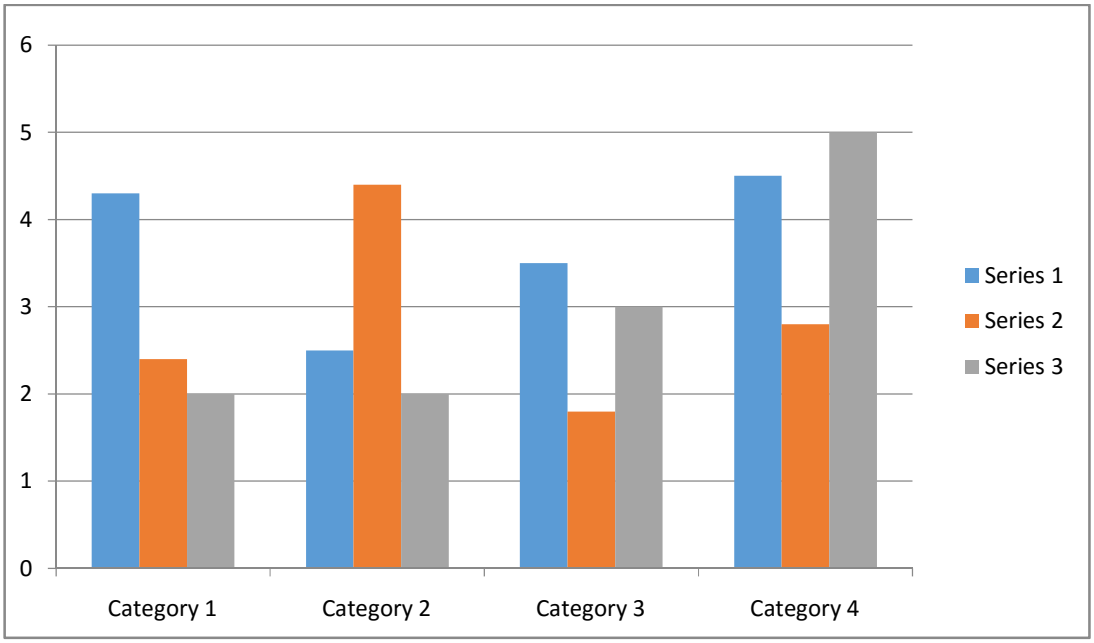
Microsoft Excel is a spreadsheet developed by Microsoft for windows. It allows users to format, organize, and calculate data with formulas using a spread sheet system.



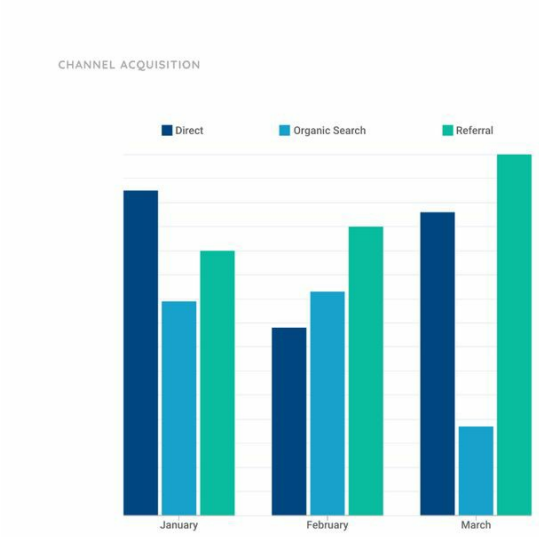
Microsoft Excel Sheet

Key points of the chapter:-

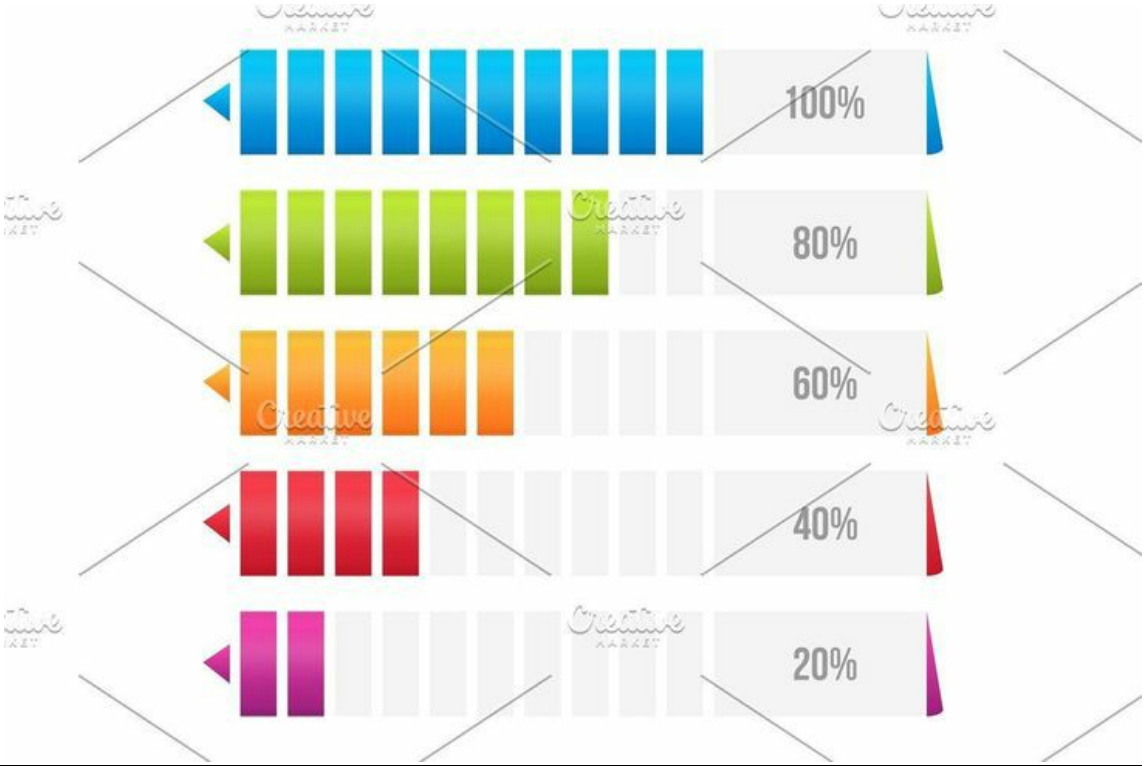
- Chart is an effective way to display data in a pictorial form. Chart makes it easier to draw comparisons and analyse the growth, relationship and trends among the values in a range.



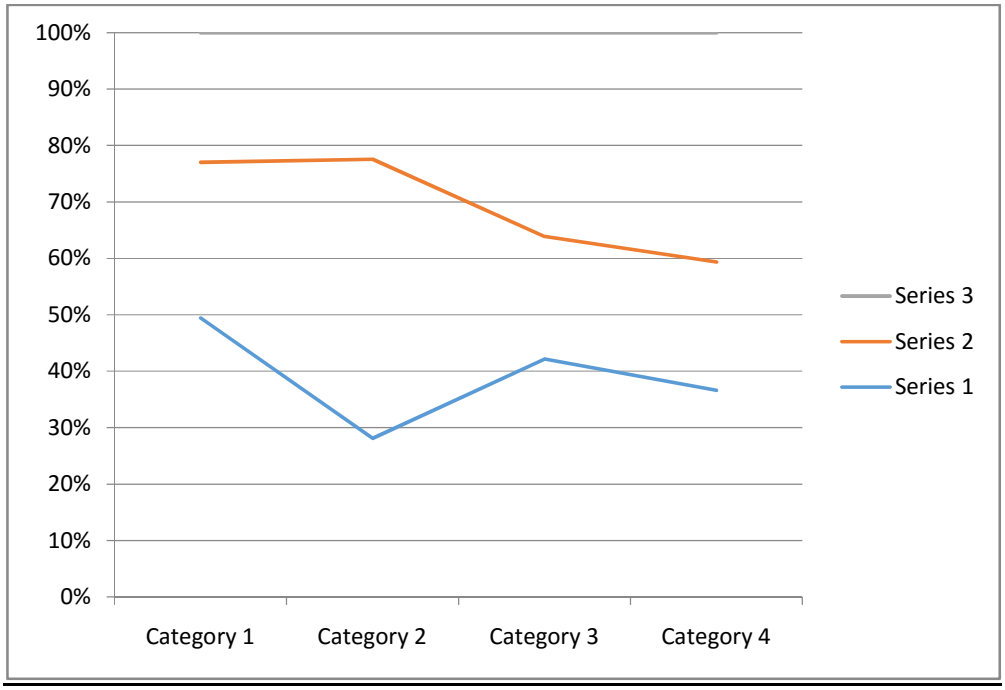
- Chart Area:-the Chart Area includes all the objects and elements in a chart.
- Plot Area:-the Plot Area is a window within a chart area. It contains the actual chart and includes the plotted data, data series, category and value axis.
- Data series:- are the bars ,slices or other elements that shows data value.
- Category name:- category name or X-axis is the horizontal axis of a chart.
- Value axis:- value axis or Y-axis is the vertical axis used to plot the values.
- Goal seek:- is a wonderful feature for fixing a specific result for one cell, by adjusting a value in another cell.
- Axes titles:- these are headings given to X-axis and Y-axis.
- Legend:- it depicts the colour, patterns and symbols assigned to data series.
- Chart title:- it describes the aim and content of the chart.
- Column chart:-a Column chart is a commonly used chart type to display data in the form of vertical bars. It is used to show changes in data over a period of time or comparisons among different data items.



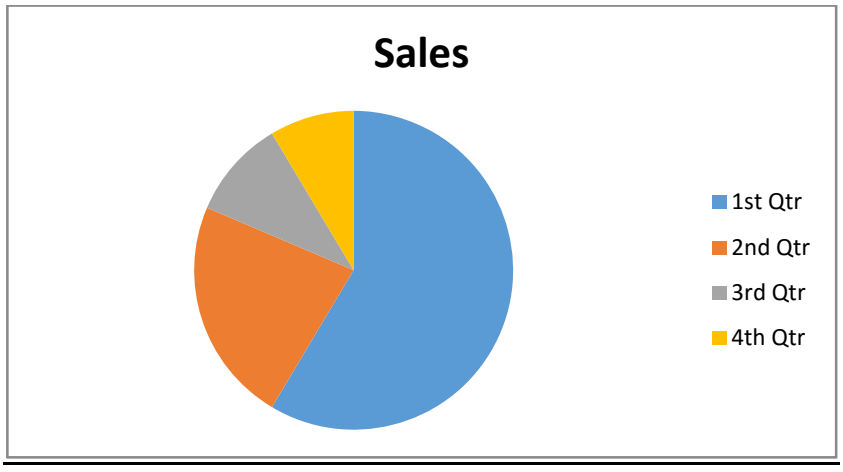
- Bar chart:- bar chart displays data in the form of long rectangular rods, also called bars, that are placed vertically or horizontally on the chart area. A bar chart illustrates comparisons amongst the individual items.



- Line chart:-this chart is in the form of lines. It is very similar to plotting a graph on a graph paper with its value axis on the X and Y axis.



- Pie:- it displays data in the form of a circle.



- **Consolidation**:- refers to combining of data either in the same worksheet or in other worksheet.

Answer the following Questions:-

Qno1:-What is a Chart?

Ans:-Chart is an effective way to display data in a pictorial form. Chart makes it easier to draw comparisons and analyse the growth, relationship and trends among the values in a range.

Qno2:- How is a column chart different from a Bar Chart?

Ans:-

Column chart:-	Bar chart:-
A Column chart is a commonly used chart type to display data in the form of vertical bars. It is used to show changes in data over a period of time or comparisons among different data items. In a column chart, categories are organised along the horizontal axis and values along the vertical axis.	Bar chart displays data in the form of long rectangular rods, also called bars that are placed vertically or horizontally on the chart area. A bar chart illustrates comparisons amongst the individual items. In this type of chart categories are represented on the vertical axis and value are represented on the horizontal axis.

Qno3:-What is the difference between Chart area and Plot area?

Ans:-

Chart Area:-	Plot Area:-
The Chart Area includes all the objects and elements in a chart.	The Plot Area is a window within a chart area. It contains the actual chart and includes the plotted data, data series, category and value axis.

Qno4:-How will you group worksheet?

Ans:- To group a worksheet, follow the given steps:-

1) Create a new workbook. The Sheet1 worksheet is active.
2) Press and hold the shift key. Click on the sheet3 tab.

3) Release the shift key. Note that all the three worksheet tabs have become white and the word [Group] appear in the title bar.
4) Enter the data in the grouped worksheet sheet 1.
5) Format the heading by making it bold and increase its font size to 18. Apply border around the headings 'FIRST QUARTER SALE 2020'.
6) Select the row3 increase the font size to 14 and give bold effect. Similarly select column A and apply some formatting effects.

Qno5:-What do you understand by the term Data Consolidation?

Ans:-Data Consolidation refers to combining of data either in the same worksheet or in other worksheet.

Define the following terms:

1) Data series:- are the bars ,slices or other elements that shows data value.
2) Category name:- Category name or X-axis is the horizontal axis of a chart.
3) Value axis:- Value axis or Y-axis is the vertical axis used to plot the values.
4) Goal seek:- is a wonderful feature for fixing a specific result for one cell, by adjusting a value in another cell.

Lesson no:-6

Topic:-Working with Flash CS3

Introduction:-

Flash is a powerful animation software package developed by Adobe system. Flash provides a versatile and easy way to create animation that consists of images, sound and video with various effects. It is similar to paint software in windows. It has almost the same tools that the paint uses.

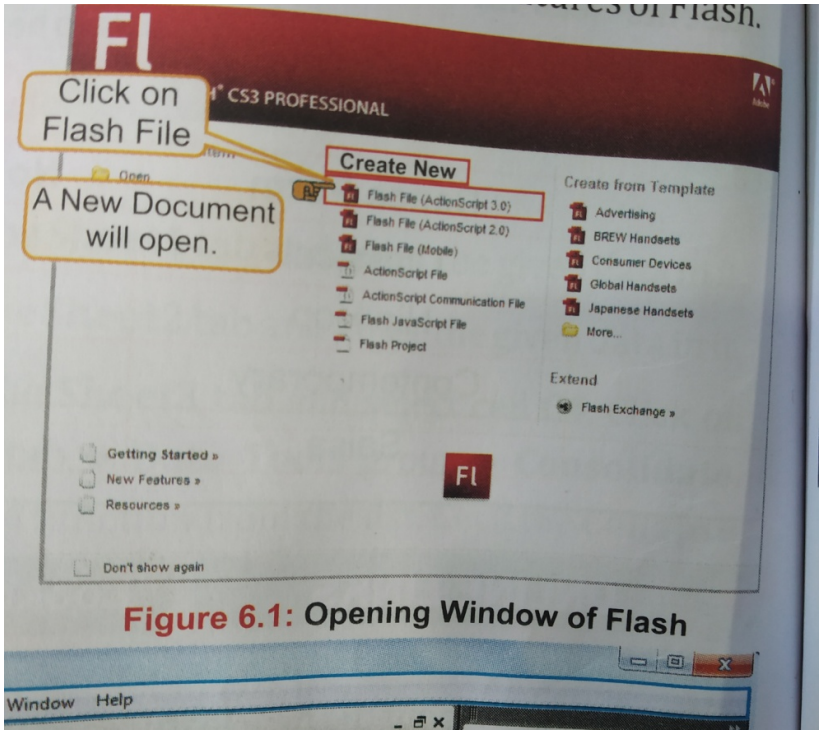


Figure 6.1: Opening Window of Flash

Key Points of the chapter:-

- Workspace:- is the arrangement of Tools panel, control panel, Property Inspector and stage

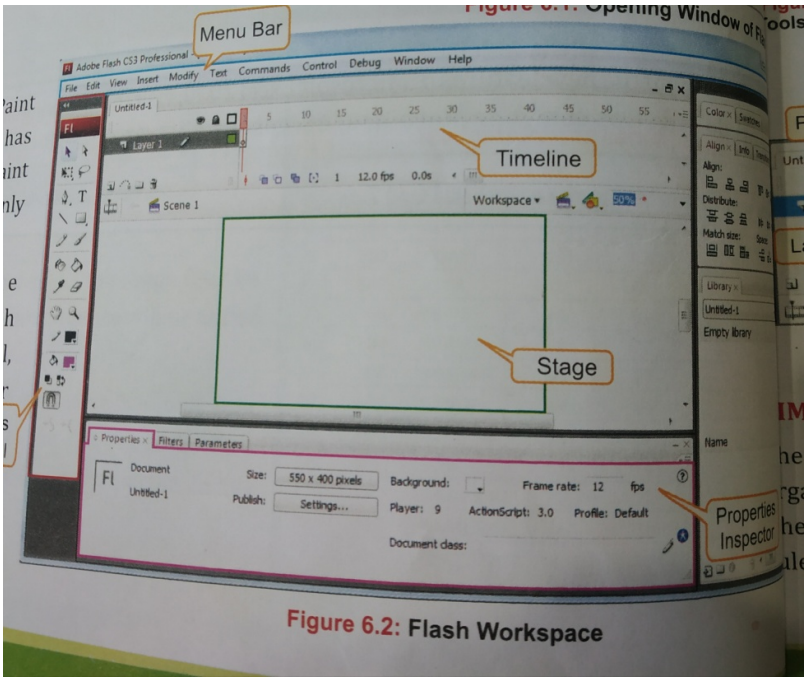
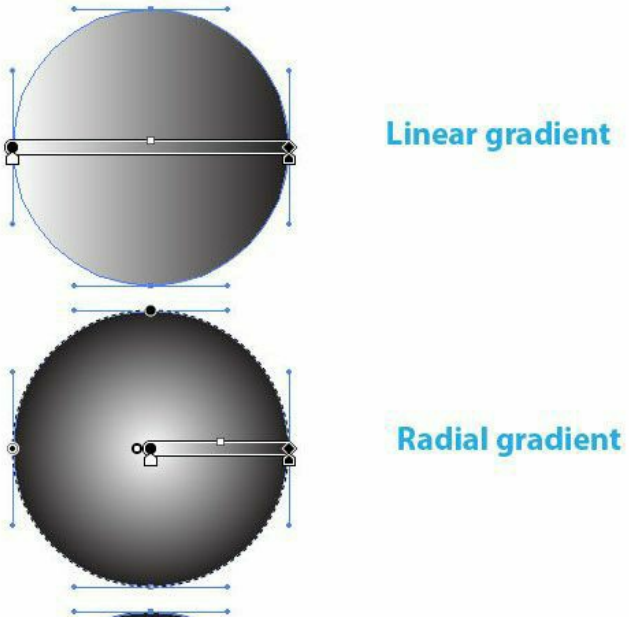


Figure 6.2: Flash Workspace

- ❖ Stage is a drawing board where we can create graphics, animation modification in it. The default size is **550*400 pixels.**

- ❖ Tools panel is divided in four Parts:-
  1) The tools section:-contains tools for drawing, painting etc
  2) The view section:-consists of tools for zooming and panning application windows.
  3) The colour section:-it includes modifiers to select colours for the shape we draw.
  4) The option section:- it displays modifiers for the current selected tools.

- Gradient fill:- Gradient means filling the colour in an object from light to dark that basically gives shade to an object or a colour formed by mixing of two or more colours in an object
  - ❖ Flash creates 2 types of gradients:-
    1) Linear Gradient:-changes colour from the starting point to the end point in straight line.
    2) Radial Gradient:-changes colour in a circular outward direction starting from the focal point.



- Timeline:-it is a fixed window that stays on top of every object in the workspace. Its major components are:-Frames, Layers, and the play head.

- ❖ Frames in flash can be defined as the little rectangular cells that appear on the timeline. Each frame has a number, which you can find on the top of the timeline
- ❖ Play head indicates the current frame displayed on the stage.
- ❖ Layers are like multiple film strips the top of one another each containing a different image that appears on the stage.

- Animation:- animation is defined as a series of still images, usually painted or sketched, displayed in rapid sequence. This action is so quick that it appears to show some movement. Two methods for creating animation are:

1) FRAME BY FRAME ANIMATION:- here we create images in every frame.
2) TWEENED ANIMATION:-we create the starting and ending key frames to animate the object. flash itself creates the motion effect in between them.

- Library panel:-it acts as a store house where symbols created in flash are store in an organised manner

---

Answer the following Questions:-

Qno1:- What do you know about Flash?

Ans:-Flash is a powerful animation software package developed by Adobe system. Flash provides a versatile and easy way to create animation that consists of images, sound and video with various effects.

Qno2:-Differentiate between Frame and key frame.

Ans:-

Frames	**Key frames**
Frames in flash can be defined as the little rectangular cells that appear on the timeline. Each frame has a number, which you can find on the top of the timeline.	Key frames are special types of frames, where we define some changes to object properties for an animation-like position colour, shape etc.

Qno3:- What does the property Inspector display?

Ans:- The property inspector is a panel that displays the properties of the selected object(text, symbol, an image, a line or a shape).

Qno4:-Describe the term Gradient.

Ans:- Gradient means filling the colour in an object from light to dark that basically gives shade to an object or a colour formed by mixing of two or more colours in an object.

Qno5:-How will you rotate an object?

Ans:- To rotate an object, follow the given steps:

1) Select the object.
2) Select the modify->Transform->Rotate and screw.
3) Click on the corner handle to rotate the object.
4) Drag a corner handle to rotate the object.
5) To end the transformation, click outside the selected object.
6) An outline of the object appears as you rotate.
7) Release the mouse button and observe the rotated object.

Qno6:- How will you import graphics from another file?

Ans:-To import graphics from another file, follow the given steps:-

1) Select the file-> Import-> Import to stage.
2) The import dialogue box appears.
3) Browser and select the file that you want to import and click on open.
4) The picture will be placed on the stage.

Qno7:- Briefly explain the term Animation.

Ans:-Animation is defined as a series of still images, usually painted or sketched, displayed in rapid sequence. This action is so quick that it appears to show some movement.

Animation in flash is created by changing the contents of successive frames. we can make an object move across the stage, increase or decrease its size, fade in and out, change colour or shape using animation.

Qno8:-What do you understand by the term Tint Tweening?

Ans:-Tint tweening is used to change the colour of an object. Tint effects work only on symbols and cannot be added to the objects that are drawn directly on the canvas of the movie.

Topic:- Binya's Blue Umbrella

Birth—1934

He began to write his first novel at the age of 17.

Ruskin Bond → Popular Indian Writer

Famous for children's book.

Gist Of The Story.

It is the extract from the novel 'The blue Umbrella' written in 1980, by Ruskin Bond → The story is about a little village girl, Binya.

→ Who was having a pretty summer blue umbrella in exchange for her neclace. → One day while dozing under the pine tree, a strong wind stirred the umbrella downhill.

→ Binya followed the umbrella and made very tough and struggling efforts to get her loving umbrella back.

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Class:- 7th
Term I
Sub:- English
L.No:- 06

Topic:- Binya's Blue Umbrella.

Word	Meaning
1. Precipice	A very steep side of a mountain or a cliff.
2. Landslide	A mass of earth that falls down a mountain slope.
3. Precariously	Dangerously.

A) Answere these questions.

Q1. How had Binya got the blue Umbrella?

Ans Binya got the blue Umbrella in exchange for her necklace.

Q2. Who was Ram Bharosa? Why would Binya and Bijju visit him?

Ans Ram Bharosa was the shop keeper on the Tehri Road. Binya and Bijju visited him to have beverages.

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Q3. Why was Ram Bharosa astonished?

Ans Ram Bharosa was astonished to see Binya's blue Umbrella.

Q4. What proposal did Ram Bharosa give to Binya? Did Binya accept the proposal?

Ans Ram Bharosa proposed to buy Binya's Umbrella for twelve rupees. No, Binya did not accept the proposal.

Q5. Why did everyone on the road turn their heads to stare at Binya?

Ans Everyone on the road turned their heads to stare at Binya because of her blue Umbrella.

Q6. What happened when Binya dozed off in the shade of a pine tree?

Ans When Binya dozed off in the shade of a pine tree, a wind sprang up and it was joined by other random gusts, rushing over the tops of the mountains. As the wind fanned Binya's cheeks, the Umbrella stirred on the grass. It got into the Umbrella and began to drag it over the grass. Suddenly, it lifted the Umbrella and carried it about

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Six feet from the sleeping girl.

Q7. Why did Binya have to be Careful about not Starting a landslide?

Ans Binya had to be very Careful not to Start a landslide, as loose Stones rumbled about the cliff. once on their way, the Stones did not Stop until they reached the bottom of the hill; and they took other Stones with them, So that there was Soon a Cascade of Stones.

A2) Answers these questions with reference to the Context.

1. That's only for memSahibs.

a) Who Said these words?

Ans Ram Bharosa Said these words.

b) What was the Speaker talking about and to whom?

Ans The Speaker was talking about the blue umbrella to Binya.

c) Why did the Speaker Say, 'That's only for memSahibs...'?

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Ans The Speaker said that because mostly the grown-up British women used to use umbrella like that during those days.

2. It's worth fifteen.....

a) Who said these words?

Ans Binya said these words.

b) What was 'worth fifteen'?

Ans The Blue Umbrella was worth fifteen.

c) What were the Speaker and the listener trying to do?

Ans Binya and Ram Bharosa were trying to negotiate the price of the blue umbrella.

3. But the most difficult task remained.

a) What was 'the most difficult task'?

Ans The most difficult task was to get the umbrella out of the tree trunk.

b) Why was it 'the most difficult task'?

Ans The task was the most difficult because it was utterly dangerous and risky.

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(6)

c) Who performed the most difficult task?

Ans Binya performed the most difficult task.

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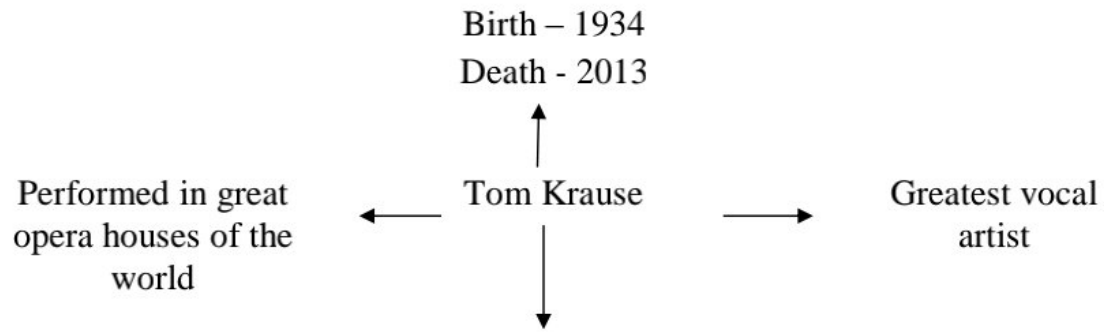
Subject: English A
Class: 7th
Term I

Topic: Just me

Lesson no: 7


Birth – 1934
Death - 2013
Performed in great opera houses of the world
Tom Krause
Greatest vocal artist
Successful in the fields of oratorio and recordings

Gist of the poem:

- The poem has a sing song quality.
- Various poetic devices used in the poem are – Onomatopoeia used in the second line of the second stanza "To swish all those baskets." Hyperbole used in the fourth line of the second stanza "I'm king of this place."
- The theme of the poem is about excelling in life and not possess ego because of it.

Summary of the poem

The poem "Just Me" has been written by Tom Krause. The poet says since he was a boy, he knew he was great. He had been told by many people that he would do very well. When the poet played basketball in his backyard he played very well. But suddenly he realizes he is not king of this place. Thus, the poet was under pressure since he used to play well with no opponents in front. He blamed his teammates, the coach and the referee for his own faults. He could not be responsible as he was the 'greatest'. But one day, he faced a mirror and found that he was to blame. All the problems were due to his poor performance. He realized that he needed to improve. That was when he started to grow. His play became better. He learned to depend on his friends and to like himself. He stopped being great and learnt to be himself.

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Word	Meaning
Jumper	A knitted piece of loose clothing for the upper part of the body, with long sleeves and no buttons.
Dribbles	To move the ball along with several bounces
Lousy	Awful; terrible

A2. Answer these questions with reference to the context.

1. So the pressure gets to me…
a. What kind of stress is the poet referring to?

Ans. The poet was referring to the stress of being in a match.

b. Why is he under pressure?

Ans. The poet was under pressure since he was used to play well with no opponents in front of him in his backyard. But it was different when he was actually facing someone.

c. How does he react to stress?

Ans. He reacted badly to stress by blaming the referees, the coach and his teammates but did not realise his own follies.

2. …the face in the mirror looked exactly like me.
a. Whose face is the poet referring to?

Ans. The poet was referring to his own face that he saw in the mirror.

b. What does the poet begin to understand? Explain.

Ans. The poet began to understand that the fault was his, there was lot of room for improvement and he could play much better. He should stop blaming for his mistakes.

c. What is the effect of the realisation on the poet?

Ans. The poet stopped treating his friends badly and blaming others for his mistakes. He started focusing on himself.

3. …I'm much better being me.
a. Was the poet pretending to be someone else? Explain.

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Ans. The poet had been pretending to be someone great as he had been told since his young age that he would make it big. But he didn't see the faults in himself.

b. Why does he decide to be himself?

Ans. The poet realised that being himself he understood his faults better and worked on improving himself.

c. How does this decision affect his life?

Ans. This decision made him work better in a team and he started playing better. He not only improved his game but also grew as a person in general.

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Class: 7th

Subject: English

Term: 1st

Topic: The Boy with a Catapult.

Birth: 1915

Bhisham Sahni

→ was a hindi writer, playwright and actor.

← was awarded Padma Bhushan in 1998

Gist of the story

It is taken from a collection of short stories, "The Best - Thirteen" →

→ It is the story of a little boy, Bodh Raj

→ who was a utterly callous and used to become happy after hurting others →

One day he went to his friends home where he rescued the birds ~~Nest~~ nest from the kites attack.

↓

Narrator was shocked to see the change in Bodh Raj.

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Class: 7th
Term 1st

Sub: English
Lesson no: 08

Topic: "The Boy with a Catapult"

Word Bank:

Word	Meaning
Assortment	: mixed collection
Callous	: Insensitive.
Catapult	: A device that is used to hurl stones or pebbles.
Vindictive	: with the desire to hurt.
Lair	: the resting place of an animal.
Dislodged	: removed.
Strutted	: walked in a very proud manner.

Q: Answer the following questions:

1). What kind of a boy was Bodh Raj? Pick out the words from the text that describe him.

Ans: Bodh Raj was the oddest boy in the school. He was callous. He would catch a wasp with his fingers, pull out its sting, tie a thread round it and fly it like a kite. He was vindictive and had pleasure in hurting others. If he quarrel

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with anyone, he would charge at him head-on like a bull and vidously kick and bite him.

Q2: Why did the narrator's new home appeal to Bodh Raj?

Ans: The narrator's new house appealed to Bodh Raj because he found it a good hunting place.

Q3: Why did the narrator's mother tolerate his friendship with Bodh Raj?

Ans: The narrator's mother tolerated his friendship with Bodh Raj because she realised that narrator was lonely and needed the company of his friend.

Q4: Why was the narrator afraid of taking Bodh Raj to the storeroom in his new house? Did his fears come true?

Ans: The narrator was afraid of taking Bodh Raj to the store-room because he thought that Bodh Raj might kill the birds in the nest. No, his fears did not come true.

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Q5: What change did the narrator notice in Bodh Raj while the latter was hunting the mynah chicks?

Ans:→ The narrator noticed a good change in the heart of Bodh Raj. Instead, of harming chicks, he saved them from the kite and shifted them to another place.

Q6:→ How did Bodh Raj save the Mynah chicks?

Ans:→ Bodh Raj saved the Mynah chicks by distracting the attention of kite by aim it with its catapult. He then asked narrator to do same, Then he arranged a table and a broken chair, stood on it and brought the nest down and placed in the garage, where the kite could not enter.

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A2. Explain these lines with reference to the context. (54)

1. "Must have gone in search of food. They should be back soon.

a. Who said these words and to whom?

Ans: Bodh Raj said these words to the narrator.

b. What aspect of the speakers character is reflected by these lines?

Ans: That the speaker knows a lot about the birds is reflected here.

c. Do you think the speaker knew a good deal about birds? Support your answer with examples from the story.

Ans: Yes, the speaker knew a good deal about birds. For examples, he was continuously talking about the habits of the Mynahs.

2. "Don't hit the kite. It will attack you.

a. Who said these words and to whom?

Ans: The narrator said these words to Bodh Raj.

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b. What do these lines tell you about the speaker? (05)

Ans: These lines show that the speaker was scared.

c. Did the kite attack the speaker and his partner? What had happened next?

Ans:→ No, kite didnot attack the speaker, kite spread its wings wide and fluted down. When Bodh Raj aimed again. The kite left the rafter and ~~ccw~~ spreading its ~~flew~~ wings, flew in a semi-circle. Bodh Raj asked narrator do aim at the kite, while he arranged a table and a broken chair, stood on it, and brought the nest down and placed it safely in the garage.

3. Bring some water, the chicks are thirsty.

a. Who said these words and to whom?

Ans: Bodh Raj said these words to the narrator.

b. Was the speaker really concerned about the chicks? Give reasons for your answer.

Ans: Yes, he was actually worried about the birds. He had just saved them from the kite.

c. Was the speaker kind to the birds earlier? What made him have a change of heart?

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Ans: No, the speaker was not kind to the birds earlier. When he saw that birds are getting attacked by another bird and that emotional situation changed his heart.

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TERM-I.

Class :- 7th

Sub:- English Grammar

Topic :- Infinitives, Gerunds + Participles.

Infinitives :- The infinitive is the form of the verb which is not limited by the subject. It may appear as to + verb or just verb which is called as the bare infinitive.

e;g → The children found it easy to climb the tree.
(found = verb; to climb = to infinitive)

→ My father made me climb the tree.
(made = verb; climb = bare infinitive)

In the above sentences, verbs found and made are governed by the subject 'The children' and 'My father', but the verbs 'to climb' and 'climb' are not limited by the subject. They are called Infinitives.

Gerund :-
The (-ing) form (going, working) is often used after many verbs as object. It is also called verbal noun or gerund, and it functions in the sentence as a noun.

e;g • She began singing
(singing = gerund)

• I've finished writing the letter.
(writing = gerund.)

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→ **Participle**:- The participle is a word formed from the verb (being, been, painting, painted) which functions as an adjective in a sentence.

e.g. • You be here. I like it.
I like your being here.
• These are my running shoes.

The words like being, running with -ing form are called present participles

e.g. English is a global language. It is spoken by almost everyone.
English is a global language spoken by almost everyone.

The word spoken is called the past Participle.

→ **CLAUSES**:-

• **phrase**:- is a small group of words which makes partial sense.
e.g very small, on the table, make sense and so on.

• **A clause**:- is more meaningful than a phrase, with a subject and a predicate but it may not make complete sense on its own.
e.g I will see you when I have time.
I gave it to him because he asked for it.

• **A Sentence**:- A Sentence on the other hand is a complete unit which makes sense on its own, starts with a capital

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letter and ends with a full stop, question-mark or exclamation mark.

e:g • Are you free tonight?
• I like mangoes a lot.
• What a helpful friend he is!

→ TYPES OF clauses.

Clauses can be divided into two classes main clauses and Subordinate clauses.

A main clause can be used on its own as a sentence.

A Subordinate clause cannot stand by itself and depends on another clause.

e:g I'll wait (M.C) till he comes (S.C).

They asked (M.C) why I was late (S.C).

I'll wait and They asked are main clauses while till he comes and why I was late are Subordinate clauses.

Subordinate clauses are usually introduced by conjunctions like when, after, before, as, if etc

There are three types of Subordinate clauses

• Noun clause :- does the work of a noun.
e:g He said that he would come after

• Adjective clause :- like an adjective, describes or modifies a noun or pronoun and is introduced by a relative pronoun (who, which, that, whose)

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e.g This is the man who saved your brother from drowning. (modifies man).

- Adverb clause :- like an adverb adds to the meaning of a verb, an adjective or an adverb.

  The film started before we arrived.
  (modifies started, i.e tells when the film started).

→ SIMPLE, COMPLEX, COMPOUND SENTENCES :-

- A Sentence with only one clause, Containing a subject and predicate is called a Simple Sentence
  e.g Sudhir goes to school by bus. (subject :- Sudhir)
- Sentences with one main clause and one or more subordinate clauses are called Complex Sentences.
  e.g Sudhir goes to school by bus though he returns by car.
- Compound Sentence has two or more main clauses.
  e.g. Pranita walks to school but takes the bus to go back home.

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WORK-SHEET

Index

- Infinitives, gerunds, Participles
- Clauses
- Simple, Complex, Compound Sentences.

A. Fill in the blanks with Correct forms of Verbs from the brackets:

1. I asked him _____ early. (come, to come)
2. She told the boy _____ himself. (wash, to wash)
3. He was anxious _____ his guests (please, to please)
4. We are likely _____ the match. (win, to win)
5. I made him _____ me the money (give, to give)
6. you needn't _____ him. (see, to see).
7. They didn't let me _____ early. (leave, to leave)
8. She let us _____ her phone. (use, to use).

B. Make Sentences using -ing form of the verbs given in the brackets.

a) Peter likes _____. (swim).
b) Sally enjoys _____. (cook)
c) Sumit hates _____. (skate)

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C Underline the participles in the following Sentences.

a) I like your being here.
b) English is a global language spoken everywhere.
c) Please follow the given direction.
d) These are my running shoes.

D Underline the main clause and circle the Subordinate clause.

1. Albert is a smart man.
2. I'm thirsty.
3. Planets are round.
4. It's good to be early.

E. Identify and write whether the following Sentences are Simple, Compound or complex.

1. Sudhir goes to school by bus.
2. Pranita walks to school because she lives nearby.
3. Can you tell me where those boys have gone?
4. Some of the scenes were scary.
5. Sudhir goes to school by bus and his sister picks him up on the way back.

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Assignment 7th

Term 1st

Session 2019- 2020

Chapter	Topic
4	Decimals
8	Commercial Mathematics
13	Congruence.

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Chapter 4
Decimals

Definition of Decimal:

The decimal is a point that seperates the whole number part and decimal part.

Eg 2.5, 1.376, 25.194

Multiplication of decimal fractions by 10, 100 and 1000:-

When we multiply a decimal fraction by 10, 100, 1000 etc, the decimal point shifts to its right.

Example:- $126.735 \times 10 = 1267.35$
(No. of zeros after 1 is 1)

$126.735 \times 100 = 12673.5$
(No. of zeros after 1 is 2)

$126.735 \times 1000 = 126735.0$
(No. of zeros after 1 is 3).

Multiplication of decimals by a whole number:

To multiply a decimal fraction by a whole number, we multiply the whole numbers, ignoring the decimal point. We insert the decimal point in such a way as given in the decimal fraction.

Example $6.25 \times 12 = 7500$

Since the given decimal has two decimal places

$6.25 \times 12 = 75.00$.

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Multiplication of a decimal by another decimal Number :-

In such multiplications, the product will have as many decimal places as the sum of the decimal places in the multiplicand & the multiplier.

Example: Multiply 1.35 by 1.43

$135 \times 145 = 19305$

Decimal places in multiplicand 1.35 = 2.

Decimal places in multiplier 1.43 = 2

Sum of decimal places = 2 + 2 = 4

Hence $1.35 \times 1.43 = 1.9305$.

Exercise 4.1

Q1 Find the product of the following:

(a) 3.5×10

Sol $3.5 \times 10 = 35$

(Number of zeros after 1 is 1 so decimal point is shifted to right)

(d) 0.9×100

Sol $0.9 \times 100 = 090.0$

(Number of zeros after 1 is 2 so decimal point is shifted to two places right)

(g) 6.123×1000

Sol $6.123 \times 1000 = 6123.0$

(Number of zeros after 1 is 3 so decimal point is shifted to three places right).

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Q2 Find the product of the following:

(a) 1.5×9

Sol $1.5 \times 9 \Rightarrow$

$1.5 \times 9 = 13.5$

$\begin{array}{r} 15 \times 9 \\ \hline 135 \end{array}$

Since the given decimal has one decimal place.

Hence $1.5 \times 9 = 13.5$

Q3 Find the product of the following

(a) 3.6×0.5

Sol $3.6 \times 0.5 \Rightarrow$

$\begin{array}{r} 36 \times 5 \\ \hline 180 \end{array}$

Here $36 \times 05 = 180$

The decimal place in the multiplicand $3.6 = 1$

The decimal place in the multiplier $0.5 = 1$

Sum of the decimal places $= 1+1 = 2$

Hence $3.6 \times 0.5 = 1.80$

(n) $3.5 \times 1.15 \times 2.2$

Sol $3.5 \times 1.15 \times 2.2 \Rightarrow$

$\begin{array}{r} 3.5 \times 1.15 \\ \hline 175 \\ 35\times \\ 35\times\times \\ \hline 4025 \end{array}$

Here $35 \times 115 = 4025$

The decimal place in the multiplicand $3.5 = 1$

The decimal place in the multiplier $1.15 = 2$

Sum of the decimal places $= 1+2 = 3$

So, $3.5 \times 1.15 = 4.025$

Now 4.025 is multiplicand.

2.2 is multiplier

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$4.025 \times 2.2 \Rightarrow$

$$\begin{array}{r} 4025 \times 22 \\ \hline 8050 \\ 8050\times \\ \hline 88550 \end{array}$$

Decimal places of 4.025 = 3
Decimal places of 2.2 = 1
Sum of decimal places = 3+1 = 4

Here $4025 \times 22 = 88550$
$\therefore 4.025 \times 2.2 = 8.8550$

Division of Decimal Fractions by 10, 100, 1000 :-

When we divide a decimal by 10, 100, 1000 etc., the decimal point shifts to its left as many places as the number of zeros in the divisor after 1.

Example: $7961.8 \div 10 = 796.18$
(Number of zeros after 1 is 1, it shifts 1 place left)

$7961.8 \div 100 = 79.618$
(Number of zeros after 1 is 2, it shifts 2 places left)

$7961.8 \div 1000 = 7.9618$
(Number of zeros after 1 is 3, it shifts 3 places left)

Division of a decimal by a Whole Number or a decimal fraction :-

In order to divide a decimal by a decimal, we follow these steps:

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Step 1: Note the number of decimal places in the divisor. Make the divisor a whole number and in the dividend shift the decimal point to the right by as many places as the number of decimal places in the divisor.

Step 2: Now divide the new dividend by the whole number.

Example: Divide 0.09555 by 2.73

Sol The number of decimal places in the divisor 2.73 = 2

Shift the decimal point 2 places to the right in the dividend.

The new dividend = 9.555

9.555 ÷ 273

$$\begin{array}{r|l|l} 273 & 9.555 & 0.035 \\ & 0\,0\,6 & \\ & \underline{95\,0} & \\ & 00 & \\ & \underline{955} & \\ & 819 & \\ & \underline{1365} & \\ & 1365 & \\ & \underline{\times} & \end{array}$$

Hence 0.09555 ÷ 2.73 = 0.035

Exercise 4.2

Q1 Divide the following:

(a) 34.19 ÷ 10

Sol 34.19 ÷ 10 = 3.419

(Number of zeros after 1 is 1, so decimal point is shifted 1 place left)

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(e) $0.01 \div 100$

Sol $0.01 \div 100 = 0.0001$

(Number of zeros after 1 is 2, so decimal point is shifted to 2 places left).

(i) $10.01 \div 1000$

Sol $10.01 \div 1000 = 0.01001$

(Number of zeros after 1 is 3 so decimal point is shifted to 3 places left).

Q2 Find the quotient of the following:

(a) $4.9 \div 0.7$

Sol The number of decimal places in the divisor $0.7 = 1$

Shift the decimal point 1 place to the right in the dividend.

New dividend = 49.0

Hence $4.9 \div 0.7 = 7.0$

$$7 \overline{)49.0} \; 7.0$$
$$\underline{49}$$
$$0$$
$$\underline{0}$$
$$\times$$

(j) $2.0484 \div 0.18$

Sol The number of decimal places in the divisor 0.18 is 2

Shift the decimal point 2 places to the right in the dividend

new dividend = 204.84

Hence $2.0484 \div 0.18 = 11.38$

$$18 \overline{)204.84} \; 11.38$$
$$\underline{18}$$
$$24$$
$$\underline{18}$$
$$68$$
$$\underline{54}$$
$$144$$
$$\underline{144}$$
$$\times$$

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Exercise 4.3

Do yourself on book.

Exercise 4.4

Q1 The product of two decimal numbers is 131.50. If one of them is 2.15, find the other.

Sol:- Product of two decimal Numbers = 131.50
one number = 2.15
∴ Other number =
$131.50 \div 2.15$

The number of decimal places in the divisor = 2
Shift the decimal point 2 places to the right of dividend.
= 13158.0

```
215 | 13150.0 | 61.2
    1290
     258
     215
     430
     430
     ×
```

Hence $131.50 \div 2.15$
$= 61.2$
Hence the other number = 61.2.

Q2 The price of one metre of cloth is ₹62.05. Find the price of 23 metres of cloth.

Sol:- Price of 1 mtr of cloth = ₹62.05
Price of 23 mtr of cloth = 62.05×23

```
  62.05 ×23
 ------
  18855
 12410×
 ------
 144155
```

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The number of decimal places in the multiplicand = 2

So ₹144555 = ₹1445.55

Hence cost of 23 mts = ₹1445.55

Q3 do yourself.

Q4 do yourself.

Q5 Shubham saves 0.2 part of his salary every month. If his monthly salary is ₹5500, how much will he save in one year?

Sol:- Monthly salary of Shubham = ₹5500

Part of salary saved in each month =

$= 0.2 \text{ of } 5500$

$= \frac{2}{10} \times 5500$

$= ₹1100$

Amount saved in 12 months $= ₹1100 \times 12$

$= ₹13200$

Q6 do yourself.

Q7 15 steel chairs were purchased by a school for ₹1706.25. Find the cost of one steel chair.

Sol: Cost of 15 steel chairs = ₹1706.25

cost of 1 steel chair =

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$$
\begin{array}{r|l|l}
15 & 1706.25 & 113.75 \\
 & 15 & \\
\hline
 & 20 & \\
 & 15 & \\
\hline
 & 56 & \\
 & 45 & \\
\hline
 & 112 & \\
 & 105 & \\
\hline
 & 75 & \\
 & 75 & \\
\hline
 & \times &
\end{array}
$$

∴ Cost of one steel chain = ₹ 113.75

Q8 do your self.

Q10 73 bags of cement weigh 4106.25 kg. Find the weight of 100 such bags of cement.

Sol. Weight of 73 bags of cement = 4106.25 kg

Weight of one bag =

$$
\begin{array}{r|l|l}
73 & 4106.25 & 56.25 \\
 & 365 & \\
\hline
 & 456 & \\
 & 430 & \\
\hline
 & 102 & \\
 & 146 & \\
\hline
 & 365 & \\
 & 365 & \\
\hline
 & \times &
\end{array}
$$

∴ Weight of 100 bags = 56.25×100

$= 5625$ kg.

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Q12 The thickness of 12 sheets of paper is 2.16 mm. Find the thickness of 1 sheet of paper.

Sol. Thickness of 12 sheets of paper = 2.16mm

Thickness of one sheet of paper =

$$12 \overline{)\, 2.16 \,} \; 0.18$$

$$\begin{array}{r} 0 \\ \hline 21 \\ 12 \\ \hline 96 \\ 96 \\ \hline \times \end{array}$$

∴ Thickness of one sheet of Paper = 0.18mm

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Chapter 4
Commercial Mathematics

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Definition of Ratio:

Ratio is the numerical relation of one quantity to another of the same kind. It is a comparison of two numbers which form the ratio are called its terms.

Every ratio can be represented in the form of a fraction.

Example $5:6 = \frac{5}{6}$

Definition of Proportion:

It is the ratio between two or more quantities of same kind.

If $\frac{a}{b} = \frac{c}{d}$ then, a, b, c and d are in proportion and can be written as $a:b::c:d$.

- The numbers 'a' and 'd' are called extremes, and 'b' and 'c' are called middle terms.

If $\frac{a}{b} = \frac{c}{d} \Rightarrow a \times d = b \times c \Rightarrow ad = bc$

Product of extremes = Product of means.

- When the three terms 'a', 'b' and 'c' are in continued proportion then

$\frac{a}{b} = \frac{b}{c} \Rightarrow b^2 = ac$ or vice-versa.

here 'b' is called mean proportion and c is called the third proportion.

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Definition of Unitary Method :-

The unitary method is a simple way of solving any mathematical problem. In this method, we find the first value of one quantity and then find the value of the required number of quantities.

There are two terms using in Unitary method

i) Direct variation :

If the value of one quantity increases with the increasing value of the other quantity or vice-versa so that their ratio remains constant, then the two quantities are said to be in direct variation, or direct proportion.

ii) Inverse Variation :

Two quantities are said to be in inverse variation or inverse proportion, if the value of one quantity increases with the decreasing value of the other quantity or vice-versa so that their ratio remains constant.

Example of Direct-variation

Q:- The cost of 11 books is ₹ 165. Find the cost of 7 such books.

Sol:- Cost of 11 books = ₹165

Cost of 1 book = 165 ÷ 11

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Cost of 1 book = ₹15

∴ Cost of 7 books = ₹15 × 7
= ₹105

R.C.I

11 | 165 | 15
11
55
55
×

Example of Indirect variation

Q If 8 men can dig a well in 18 days, in how many days can 12 men dig the same well?

Sol:- 8 men can dig a well in = 18 day
1 man can dig a well in = 18 × 8 days.
= 144 days.

So, 12 men can dig the well in =
$\frac{144}{12}$ days
= 12 days.

—o—

Exercise 8.1

Q 10 men can dig a well in 9 days. In how many days can 15 men dig the same well.

Sol:- 10 men can dig a well in = 9 days
1 men can dig a well in 10 × 9 days
= 90 days

So, 15 men can dig the well =
$= \frac{90}{15}$ 6
= 6 days.

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Q2 10 workers are paid ₹ 1680 for one day. How much money will be paid to 28 workers for one day?

Sol:- Wadges of 10 workers per day = ₹ 1680

Wadges of 1 worker per day = $\frac{1680}{10}$ = 168

= ₹ 168

So, wadges of 28 workers per day = 168 × 28

= ₹ 4704

Q3 In a school the monthly fee collection of 350 students is ₹ 3,85,000. What will be the collection fee of 50 students for a month?

Sol:- Monthly fee collection of 350 students = ₹ 3,85,000

Monthly fee collection of 1 student = $\frac{385000}{350}$ = $\frac{7700}{7}$ = $\frac{1100}{1}$

= ₹ 1100

So, Monthly fee collection of 50 students =

= ₹ 1100 × 50

= ₹ 63000 :

Q5. The cost of 15 envelopes is ₹ 37.50. How many envelopes can be bought for ₹ 300? What will be the cost of 20 envelopes?

Sol Cost of 15 envelopes = ₹ 37.50

Cost of 1 envelop = $\frac{37.50}{15}$ = $\frac{3750}{1500}$ (25, 10)

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$= \frac{25}{10} = 2.50$

$= ₹ 2.50$

Number of envelops bought for ₹ 300 =

$= \frac{300}{2.50} = \frac{30000}{250} = 120$ envelops.

cost of 20 envelops = 20×2.50

$= 20 \times \frac{250}{100}$

$= ₹ 50.$

Q6 The total wages of 30 labourers were ₹ 3450 per day. What would be the total wages if 10 more labourers were added to them?

Sol Wages of 30 labourers per day = ₹ 3450

Wages of 1 labourer per day = $3450 \div 30$

$= \frac{3450}{30} = ₹ 115$

Wages of 10 labourers per day = $115 \times 10 = ₹ 1150$

Total wages of 40 labourers per day =

₹3450 + ₹1150 = ₹4600.

Q7 A car takes 7 hours to cover a certain distance at the speed of 40km/hr. If the speed is decreased by 20km/hr, how much time will it take to cover the same distance?

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Sol. Speed = 48km/hr, Time = 7hrs = Distance = ?

we know it

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

or Speed × Time = Distance

48km/hr × 7hr = D.

336km = D

or D = 336km.

If speed is decreased by 20km/hr.

∴ Speed = 48 − 20 = 28 km/hr

Distance = 336km

Time = ?

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$

$$\text{Time} = \frac{336\text{km}}{28\ \text{km/hr}} = 12\text{hr}$$

Time = 12hr.

12
28 ⟌ 336
28
56
56
x

Definition of Percentage :-

The percent is a term which means out of hundred. Percentages are fractions with the denominator equal to 100.

Converting fractions, ratios and decimals into percentages and vice-versa.

1. To convert a fraction into percent

To convert the fraction into percent, we multiply the fraction by 100 and assign the % symbol.

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Example: Convert $\frac{7}{20}$ into percent.

Sol. $\frac{7}{20} = \left(\frac{7}{\cancel{20}_{1}} \times \frac{5}{\cancel{100}}\right)\%$

$= (7 \times 5)\% = 35\%$

To convert a percent into fraction.

For converting a percent into fraction, divide the number by 100 and drop the % symbol.

Example: Convert 30% into fraction.

Sol. $30\% = \frac{30}{\cancel{100}} = \frac{3}{10}$

II, To convert a ratio into percent

To convert a ratio into percent, we write the ratio as fraction, then multiply the fraction by 100 and assign the % symbol.

Example:- Convert 3:5 into percent.

Sol. $3:5 = \frac{3}{5} = \left(\frac{3}{\cancel{5}_{1}} \times \frac{20}{\cancel{100}}\right)\%$

$= (3 \times 20)\% = 60\%$

To convert a percent into ratio

For converting a percent into a ratio divide the number by 100 and drop the % symbol.

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6 Example: Convert 56% into ratio

Sol: $56\% = \frac{56}{100}$

$= \frac{56 \div 4}{100 \div 4} = \frac{14}{25}$

$= 14:25$

(ii) To convert a decimal into percent.

To convert a decimal into percent, we move the decimal point two places to the right and assign the % symbol or multiply the decimal by 100 and assign the % symbol

Example:- Convert the 1.5 into percent.

Sol. $1.5 = (1.5 \times 100)\%$

$= \left(\frac{15}{10} \times 100\right)\% = (15 \times 10)\%$

$= 150\%$

To convert a percent into a decimal.

For converting a percent into a decimal, we drop the percent symbol and shift the decimal point by two places to the left or divide the number by 100 and drop the % symbol.

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Example: Convert the 73% percent into decimals.

$$73\% = \frac{73}{100} = 0.73.$$

Exercise 8.2

Q1 Express the following fractions as percentages.

(a) $\frac{3}{4}$

Sol $\frac{3}{4} = \left(\frac{3}{4} \times \frac{25}{100}\right)\% = 75\%$

Q2 do your self.

Q3 do your self.

Q4 Express the following percent as fractions.

(a) 26%

Sol $26\% = \frac{26}{100} = \frac{13}{50}$

Q5 do your self.

Q6 do your self.

Q7 What percent of

a, 60 is 600?

Sol $60 \text{ is } 600 = \left(\frac{600}{60} \times 100\right)\% = (10 \times 100)\%$

$= 1000\%$

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Q8 Find the number whose 12% is 60

Sol Let the number be x, Then

12% of $x = 60$

$\frac{12}{100} \times x = 60 \Rightarrow 12x = 60 \times 100$

$x = \frac{60 \times 100}{12}$

$x = 500$

∴ The number = 500

Q9 A railway ticket costs ₹720. A further 2% tax of this amount is added to it. What is the total amount of this ticket?

Sol Cost of railway ticket = ₹720

tax on it = 2% of 720

∴ Total cost of ticket =

₹720 + 2% of 720

$720 + \frac{2}{100} \times 720 = \frac{72}{5}$

14.4
5 | 72
5
22
20
20
2

₹720 + 14.4

= ₹734.4

Q12 Pulakesh secures 630 marks out of 900 and Radhika secures 650 marks out of 1000. Whose performance is better?

Sol Pulakesh secures marks = 630

Maximum marks = 900

Percentage of marks = $\left(\frac{630}{900} \times 100\right)\%$

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= 70%

Radhika scored marks = 650
Maximum Marks = 1000
Percentage of marks = $\left(\frac{650}{1000} \times 100\right)\%$

= 65%

∴ Pulakash's performance is better.

Q13 A man travelled 50 km by bus and 200 km by train. Find what percent of the total journey did he travel by bus and what percent by train.

Sol. Journey travelled by bus = 50 km
Journey travelled by train = 200 km
Total journey travelled = 50 + 200
= 250 km.

Percentage of journey travelled by bus =
$\left(\frac{50}{250} \times \frac{20}{100}\right)\%$
= 20%

Percentage of journey travelled by train =
$\left(\frac{200}{250} \times 100\right)\%$ = 80%

Q14 The price of a suit is increased by 12%. If the present price is ₹896, find its original price

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60. Present price of a suit = ₹ 896
%age increased in price = 12%
∴ The original price =
₹ 896 − 12% of 896
₹ 896 − $\frac{12}{100} \times 896$
896 − $\frac{2688}{25}$
896 − 107.50 = ₹ 788.50
approx = ₹ 800

—∞—

Chapter 13 P 23
Congruence P 23

Definition of Congruence:-

In geometry two figures that are identical in shape and size are said to be congruent and this property of being identical is called Congruence. It is denoted by the symbol $\cong$ and read as "is congruent to".

Congruence of Simple geometrical Shapes:-

Two geometrical figures are congruent if one of them can be turned on other, covers the other completely and exactly.

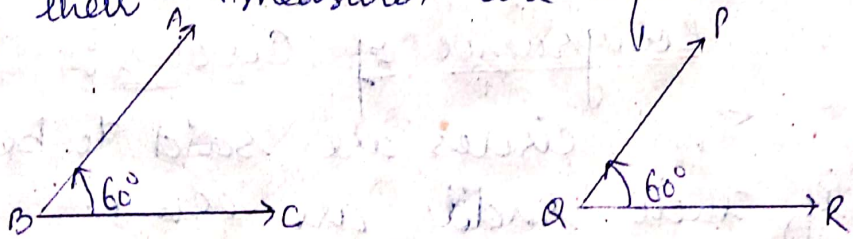
We check the congruence of line segments, angles, triangles, squares, quadrilaterals etc.

Congruence of Line Segments:

Two line segments are said to be congruent if their lengths are equal, i.e $\overline{AB} \cong \overline{CD}$

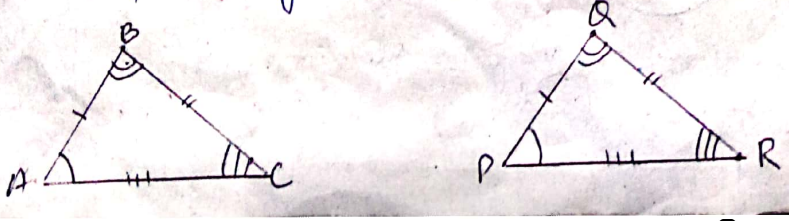
Congruence of Angles:

Two angles are said to be congruent if their measures are equal.



Congruence of Triangles:

Two triangles are congruent if their corresponding sides and corresponding angles are equal.



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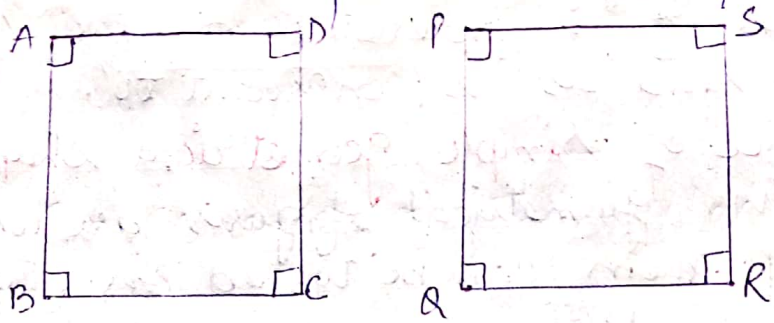
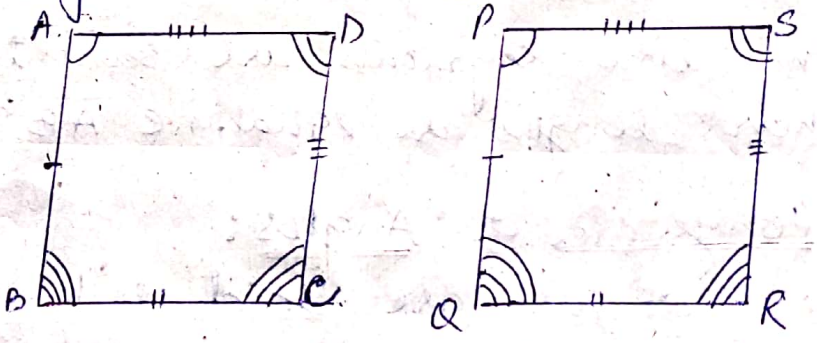
Congruence of Squares:

Two squares are congruent if one side of a square is congruent to any one side of the other square.



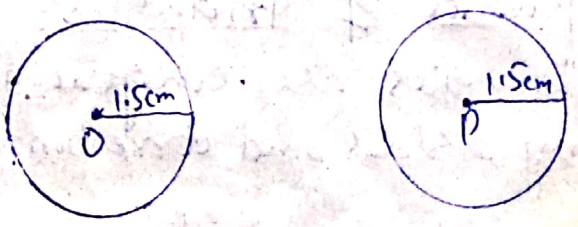
Congruence of Quadrilaterals:

Two quadrilaterals are said to be congruent if the eight elements of one quadrilateral must be respectively congruent to eight elements of other quadrilateral.



Congruence of circles:

Two circles are said to be congruent if their radii are equal.



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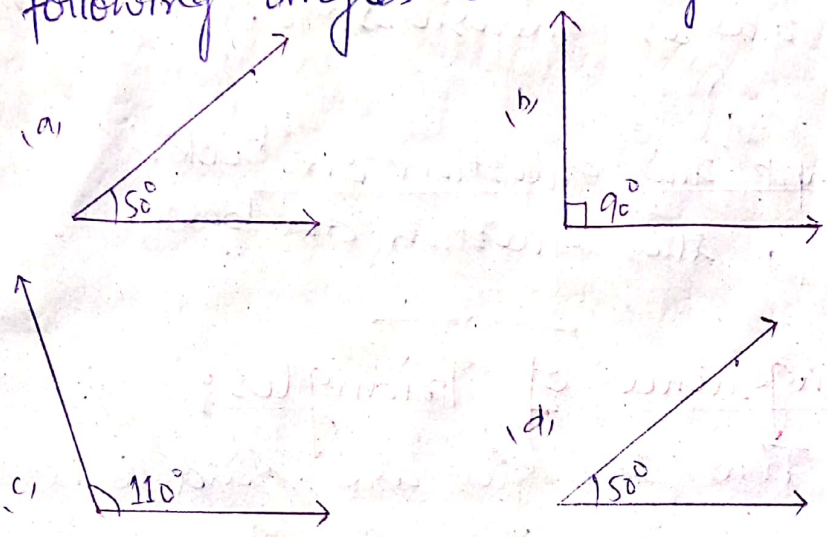
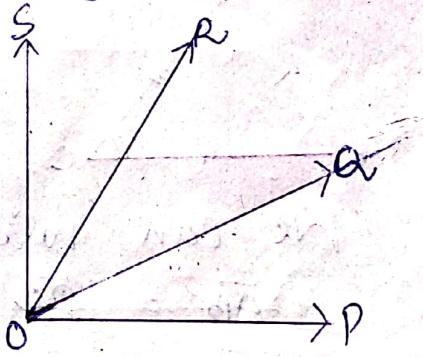
Exercise 13.1

Q1 Measure the angles, and say which of the following angles are congruent.



Sol. Figure (a) and (d) are equal and congruent as these are of same measurement.

Q2 Is $\angle POR \cong \angle SOQ$ if $\angle POQ \cong \angle ROS$. If so, why?



Sol $\angle POQ \cong \angle ROS$ (given)

$\angle POQ = \angle ROS$

Adding $\angle QOR$ to both sides.

$\angle POQ + \angle QOR = \angle QOR + \angle ROS$

$\angle POR = \angle QOS$

or $\angle POR = \angle SOQ$

$\therefore \angle POR \cong \angle SOQ$.

Q3 do yourself.

Q4 Is it correct to say that two right angles are congruent? Give reasons to justify your answer.

T.O

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Sol: Yes, it is correct to say that any two right angles are congruent. Because all right angles measures 90°.

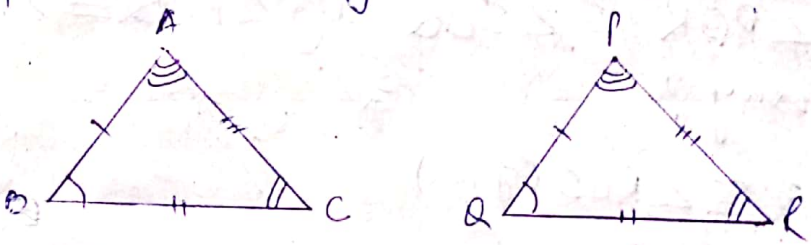
Q5 Attempt this question on book.

Q6 Attempt this question on book.

—o—

Congruence of Triangles:

Two triangles are said to be congruent, if their corresponding angles and corresponding sides are equal, i.e six equalities hold good for the congruence of two triangles.



We can write

$\overline{AB} = \overline{PQ}$

$\overline{BC} = \overline{QR}$

$\overline{CA} = \overline{RP}$

and $\angle A = \angle P$

$\angle B = \angle Q$

$\angle C = \angle R$

There are four for the two triangles to be congruent.

I Side-Side-Side (congr.) II Side-Angle-Side (congr.)

III Angle-Side-Angle (congr.) IV Right-Angle-Hypotenuse-side (cong.)

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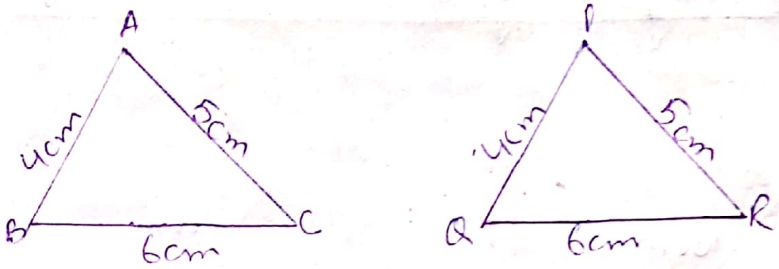
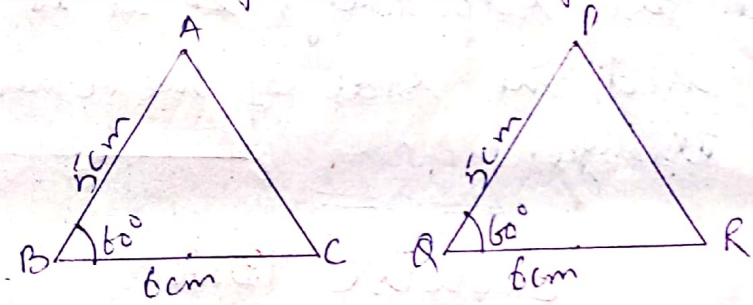
Side - Side - Side Congruence



Two triangles are congruent if three sides of one triangle are, respectively, equal to the three sides of the other triangle.

—o—

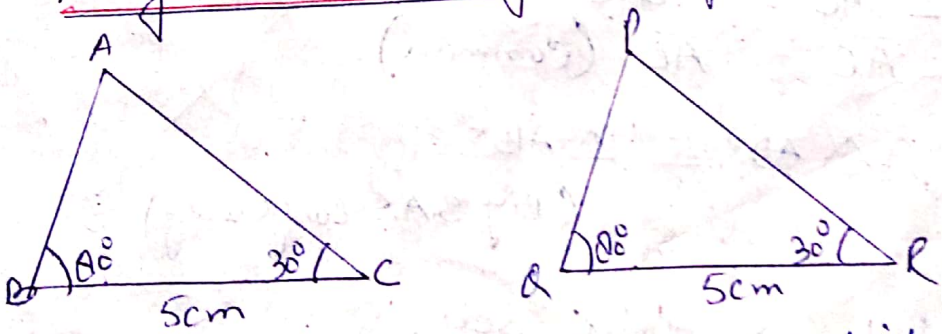
Side - Angle - Side Congruence



Two triangles are congruent if two sides and the included angle are respectively equal to the two sides and included angle of the other triangle.

—o—

Angle - Side - Angle Congruence



Two triangles are congruent if two angles and the included side of one triangle are, respectively, equal to the two angles and included side of the other triangle.

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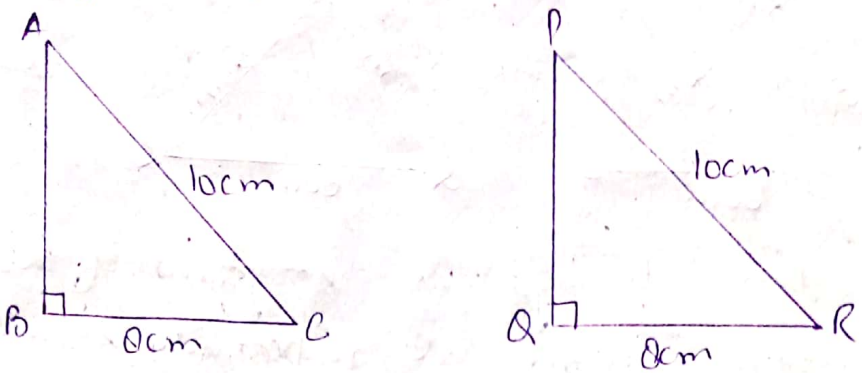
Right Angle - Hypotenuse - Side Congruence

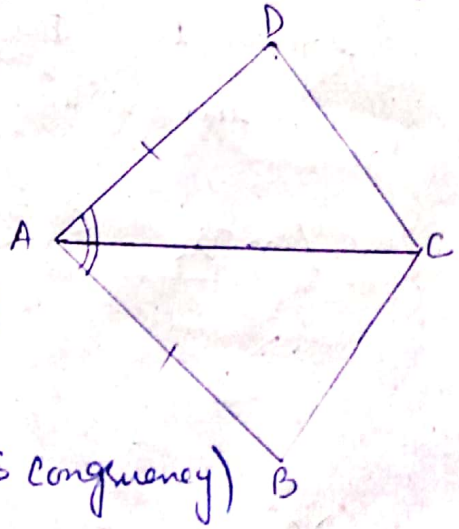


Two triangles are congruent if the hypotenuse and one side of a right angled triangle are, respectively, equal to the hypotenuse and one side of the other right-angled triangle.

—o—

Exercise 13.2

Q1, a) State the conditions of congruency in each of the following cases.



Sol) In $\triangle ADC$ and $\triangle ABC$

$\overline{AD} = \overline{AB}$

$\angle DAC = \angle BAC$

$\overline{AC} = \overline{AC}$ (common)

$\therefore \triangle ADC \cong \triangle ABC$.

(By S.A.S congruency)

Part b) do yourself.

Q2 Attempt this question on book.

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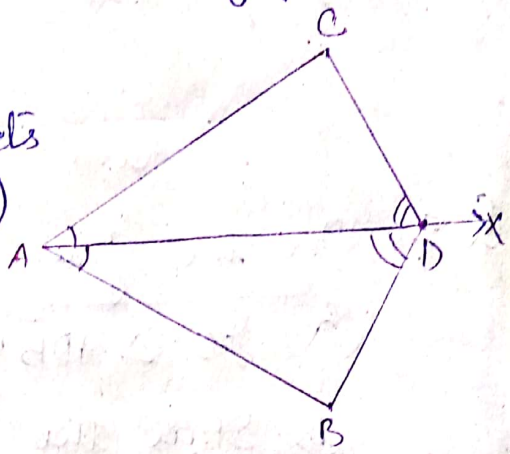
Q4 In the given figure, Ax bisects $\angle BAC$ as well as $\angle BDC$. Is $\triangle ABD \cong \triangle ACD$? If yes state the congruent parts.



Sol:- In this figure Ax bisects $\angle BAC$ and $\angle BDC$. (given)

Now, In $\triangle ABD$ and $\triangle ACD$

$\angle CAD = \angle BAD$

$\overline{AD} = \overline{AD}$

$\angle BDA = \angle CDA$

$\therefore \triangle ABD \cong \triangle ACD$ (By A.S.A congruency)

Yes, $\triangle ABD \cong \triangle ACD$.

Congruent parts are

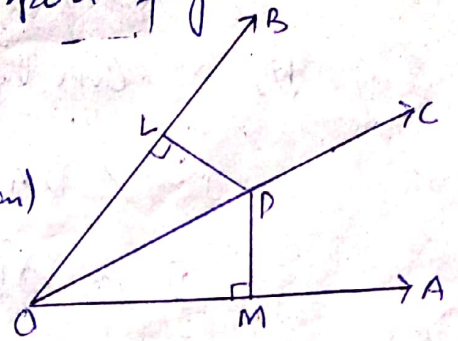
$\angle CAD = \angle BAD$

$\overline{AD} = \overline{AD}$

$\angle BDA = \angle CDA$

Q5 In the given figure, $\overline{PL} \perp \overline{OB}$ and $\overline{PM} \perp \overline{OA}$ such that $\overline{PL} = \overline{PM}$. Is $\triangle PLO \cong \triangle PMO$? Give reasons in support of your answer.

Sol. In the given figure.



$\overline{PL} \perp \overline{OB}$ and $\overline{PM} \perp \overline{OA}$ (given)

$\overline{PL} = \overline{PM}$ (given)

In $\triangle PLO$ and $\triangle PMO$

$\angle PLO = \angle PMO$ (each 90°)

$\overline{PL} = \overline{PM}$ (given)

$\overline{OP} = \overline{OP}$ (Common)

$\therefore \triangle PLO \cong \triangle PMO$ (By R.H.S congruency)

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Yes, $\triangle PLO \cong \triangle PMO$

Because $\angle L = \angle M = 90^\circ$

$\overline{PM} = \overline{PL}$

$\overline{OP} = \overline{OP}$ (common).

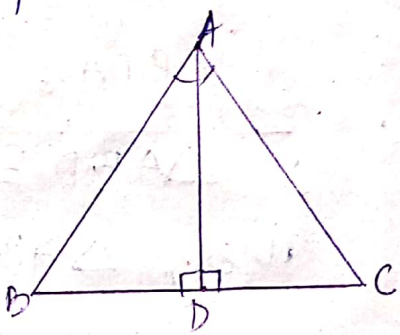
—o—

Q7 In the given figure. $\overline{AD}$ bisects $\angle A$ and $\overline{AD} \perp \overline{BC}$

(a) Is $\triangle ADB \cong \triangle ADC$?

(b) State the conditions of congruency.

Sol. In the given figure $\overline{AD}$ bisects $\angle A$.



In $\triangle ADB$ and $\triangle ADC$

$\angle DAB = \angle DAC$

$\overline{AD} = \overline{AD}$ (common)

$\angle ADB = \angle ADC$ (each 90°).

$\therefore \triangle ADB \cong \triangle ADC$ (By A.S.A congruency)

(a) Is $\triangle ADB \cong \triangle ADC$

Yes, $\triangle ADB \cong \triangle ADC$ (By A.S.A congruency)

(b) Conditions of congruency are

I $\angle DAB = \angle DAC$

II $\overline{AD} = \overline{AD}$

III $\angle ADB = \angle ADC$ (each 90°)

—o—

Q8 Do yourself.

—o—

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classmate
Date
Page

"The Legends School of Education"

"Session:" "2019-2020"

"Assignment:" "TERM-I"

"Class:" "7th"

"Sub:" "S.St"

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Topic:- Settlement, Transport and Communication.

Sub topics:-

- Settlement
- Types of Settlements
- Transport
- Modes of transport
- Communication.
- Mass Media

→ Settlement: a human habitation comprising buildings, means of transport and communication and inhabitants

→ Types of Settlements

- Temporary Settlement: a settlement that is abandoned after a time, and is not continuously occupied.
- Permanent Settlement: a settlement that is not abandoned, and remains continuously occupied.
- Rural Settlement: a settlement in which most of the people are engaged in primary activities.
- Urban Settlement: a settlement in which most of the people are engaged in secondary activities.

Quick check

Qno1 What is a Settlement?
Qno2 What kind of Settlement is a city?
Qno3 Villages are examples of what kind of Settlement.

→ Transport: The means by which goods and people can be moved from one place to another.

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→ # Modes of Transport

- Roadways
- Railways
- Waterways
- Airways

→ Communication involves the transmission of messages.

- Telecommunication: any type of communication in which messages are sent using electromagnetic means.
- Internet: a network connecting millions of computers all over the world, which can exchange information amongst themselves.
- Mass Media means of communication that can reach a large number of people at the same time

Quick Check

1) An expressway is a type of ___.
2) The Panama Canal connects the ___ and the ___.
3) Television, radio, films and the Press are examples of ___.
4) ___ and ___ are two Indian cities that are served by underground railways.

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Topic:- Settlement, Transport and Communication

Q no 1 What comprises a modern settlement?
Modern settlements are bigger and better than earlier ones. Today towns and cities have multi-storeyed buildings, broad roads, well planned sewage systems and various other facilities.

Q no 2:- Name the longest railway in the world. Where is it located?
The Trans-Siberian Railroad is the longest railway in the world. It is located in Russia and links Moscow to Vladivostok on the Pacific coast.

Q no 3:- What is telecommunication?
When messages are transmitted by using electro-magnetic means, it is known as telecommunication. Telecommunication happens through cell phones or mobile phones.

Q no 4:- Mention some of the conditions that favour the growth of settlements.
Conditions that favour the growth of settlements are availability of source of water, fertile soil, moderate climate for agriculture and other economic activities, nearness to mines, industrial areas and places which attract tourists due to their natural beauty or their historical or religious importance.

Q no 5:- How are railways useful in India? Why is the construction of railways expensive?
In India, railways are extensively used for carrying passengers as well as goods. The cities have suburban train services. Kolkata and Delhi

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also have underground railways, or Metro Rail services. The construction of railways is expensive as it involves the laying of tracks.

Q no 6 What is the internet? What are its uses?

The internet is a network connecting millions of computers all over the world, which can exchange information amongst themselves. People all over the world can log onto the internet and send electronic mail (e-mail), hold discussions or gain access to information available on the network.

Q no 7:- Classify Settlements on the basis of period of occupation and the activities of the inhabitants.

Depending on the length of time for which it is continuously occupied, a Settlement may be temporary or permanent.

Temporary Settlements are occupied for a short time and then abandoned permanently or for long. Permanent Settlements are used continuously.

On the basis of occupations of the inhabitants, a Settlement may be rural or Urban.

In rural Settlements (villages), occupations are primary activities like agriculture, fishing, forestry, etc. Products are derived directly from nature.

In Urban Settlements (towns and cities), occupations are secondary activities like manufacturing and trading, in which products are derived from products of primary activities.

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Topic: The Media and Democracy.

Sub Topics

- Media
- Important functions of media
- Media Ethics and Accountability
- The Government and information
- Right to Information Act.

→ Media:- The means by which large number of people get information and entertainment are called media.

Important functions of the Media

- Giving Information
- Forum for Discussion and Debate
- Shaping Public Opinion.

→ Media Ethics and Accountability

- Maintaining accuracy and fairness.
- Respecting people's privacy.
- Protecting the interests of the nation and the society
- Correcting errors and allowing replies.
- Avoiding vulgarity
- Showing caution while criticising the actions of courts.

→ The Govt and Information

- Our government uses mass media to give information to the people.
- The government has its own media units.
- The Ministry of Information and Broadcasting is responsible for developing, regulating and sending out information.

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→ The Indian government passed the Right to Information Act 2005, to give the people access to information relating to public authorities.

→ The act came into force in October 2005

Quick Check.

Qno1 What do you understand by media?
Qno2 Give two examples of print media.
Qno3 What kind of books and movies does the government censor?
Qno4 Which government department is responsible for sending out information?

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Topic:- The Media and Democracy

Qno1:- State the important functions of media.
Some of the important functions of the media are giving information, conducting analyses, discussion and debate, and shaping public opinion.

Qno2:- Which government department is responsible for sending out information?
The Ministry of Information and Broadcasting is responsible for developing, regulating and sending out information.

Qno3:- When did the Right to Information Act, 2005, come into force?
The Right to Information Act passed by the government of India came into force all over the country on 12 october 2005.

Qno4 Why should the government, especially in a democratic country, give information to the people?
The government must give its citizens information about the laws that have to be obeyed and citizens' rights and duties. Otherwise there will be disorder in the country. In a democratic country, people have a right to know about the activities of the government.

Qno5:- Does the Indian government have any media units of its own? Give examples to support your answer.
The Indian government has several media units of its own. Among them are the Press Information Bureau, the Publications Division and the Prasar Bharti, which includes All India Radio

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Doordarshan.

Qno6:- Mention two important provisions of the Right to Information Act, 2005.

The two provisions of the Right to Information Act are:

1) Every public authority (institution or body established, controlled or funded by a government) must maintain its records in such a way that the records can easily be accessed by people.
2) Every public authority must publish information about its organisation, functions, duties, important policies and decisions, planned expenses, and so on.

Qno7:- List the principles that are usually included in codes of media ethics.

The media:

1) Should not publish or broadcast incorrect, misleading or distorted information;
2) Should respect people's privacy;
3) Should protect the interests of the nation and society by being cautious regarding information that may threaten the nation or society;
4) Should promptly correct errors, allow replies and apologise for mistakes;
5) Should avoid vulgarity, rudeness or obscenity;
6) Should show caution while criticising the Courts.

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Topic:- India in the Eighteenth Century

Sub topics

- Later Mughals
- Breaking up of the Mughal Empire
- The former Mughal provinces.
- Foreign Invasions.
- The Rajput States
- The Marathas
- The Sikhs.

Introduction

→ The Mughal empire declined under the later Mughals, who ruled from 1707 to 1857.

→ Many independent States were established during Muhammad Shah's reign.

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→ Former Mughal provinces

- Bengal (Murshid Quli Khan)
- Hyderabad (Nizam-ul-Mulk)
- Awadh (Saadat Khan)

→ Foreign invasions

. The Persian ruler Nader Shah invaded India and defeated the Mughal Emperor Mohammad Shah at Karnal 1739.

→ The Rajput States

. Some rulers who held watan jagirs, like Maharaja Ajit Singh of Jodhpur and Sawai Raja Jai Singh of Amber, freed themselves from Mughal control and established their own states.

→ The Jat State of Bharatpur rose to prominence under Suraj Mal.

→ The Marathas

. Shivaji rebelled against the Mughals and laid the foundation of the Maratha State.

→ The Sikhs

. Banda Bahadur became the leader of the Sikhs after Guru Gobind Singh's death.

. Maharaja Ranjit Singh united all the Sikhs living west of the Satluj and established the independent Sikh State of Punjab.

Quick Check

Q no1 When did the rule of the Great Mughals end?

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Qno2 Which State did Saadat Khan govern?
Qno3 Who Started Asaf jahi dynasty?
Qno4 Which officer became the real ruler of the Marathas by the end of Shahu's reign?
Qno5 After the death of Guru Gobind Singh, who led the Sikh's struggle against the Mughals?

→ One word Answer
1) Saadat Khan reduced Mughal control over his State by:
2) Murshid Quli Khan was to Bengal what Chin Qulich Khan was to:
3) The ruler who built a new fort at Deeg
4) Maharaja Ranjit United the Sikhs living west of the:

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Topic:- India in the Eighteenth Century

no1:- What was the effect of Aurangzeb's prolonged absence from Delhi?
Aurangzeb's nobles and officials became powerful and ambitious due to his prolonged absence from Delhi, during his long wars in Deccan.

no2:- Why were Jagirdars appointed in Awadh?
Jagirdars (revenue farmers), were appointed for time-bound payments to the state. So the right to collect revenue from cultivators was auctioned to them.

no3:- How did the Marathas anger the Jats, Rohillas and other Indian powers?
The Marathas angered the Jats, Rohilla Afghans and other Indian powers by raiding their territories and forcing them to pay tribute.

no4:- Which organisation bound the Sikh misls together?
Sikhs were organised in political units called misls which were bound together by an organisation called the Dal Khalsa.

no5 Mention the different types of independent states that arose during the later Mughal period.
States like Bengal were old Mughal provinces which did not break formal ties with the Empire. Some like Amber were watan jagirs under the Mughals but [redacted] now asserted their independence. Others were states formed by groups such as the Sikhs who had won independence.

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Qno6 How did Asaf Jah show his loyalty to the Mughal Emperor?

Asaf Jah ruled independent of Mughal control but showed his loyalty to the Mughal Emperor by continuing to issue coins and having the Khutba read in his name. Asaf Jah crushed rebellious chiefs and zamindars, and fought against the Marathas to check their growing power.

Qno7 What were the contributions of Sawai Raja Jai Singh?

Sawai Raja Jai Singh was the governor of Malwa and Agra. He founded the city of Jaipur and made it a centre of art and scientific learning. He was deeply interested in astronomy and built observatories at Delhi, Jaipur, Ujjain, Varanasi and Mathura.

Qno8:- What were the main causes of Maratha failure in the third battle of Panipat?

The Marathas lost the third battle of Panipat since Abdali had allied with their enemies. They had angered local rulers and did not receive support. They were short of supplies, starving and weakened by infighting. Their military techniques and weapons were outdated and unsuitable for the plains.

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